

03/26/04

Re: 10/085607

AU 2822

Examiner Lewis,

JEF 5A30

Please find attached first-pass prior-art search results from the patent and non-patent abstract databases. The results were based on claims and statements of technical problems and solutions. Tagged records might be worth your review as well as the rest of the references provided.

If you need further searching or have questions or comments, please let me know.

Thank you,



Irina Speckhard
STIC-EIC2800
272-2554
JEF 4B59

SEARCH REQUEST FORM Scientific and Technical Information Center - EIC2800

Rev. 8/27/01

This is an experimental format -- Please give suggestions or comments to Jeff Harrison, CP4-9C18, 306-5429.

Date <u>3/22/04</u>	Serial # <u>10/085,607</u>	Priority Application Date _____
Your Name <u>M. Lewis</u>		Examiner # _____
AU <u>2522</u>	Phone <u>5A30</u>	Room <u>2092-1838</u>
In what format would you like your results? Paper is the default. <u>PAPER</u> DISK EMAIL		

If submitting more than one search, please prioritize in order of need.

The EIC searcher normally will contact you before beginning a prior art search. If you would like to sit with a searcher for an interactive search, please notify one of the searchers.

Where have you searched so far on this case?

03-24-049P979439M1

Circle: USPT DWPI EPO Abs JPO Abs IBM TDB

Other: _____

What relevant art have you found so far? Please attach pertinent citations or Information Disclosure Statements. _____

What types of references would you like? Please checkmark:

Primary Refs <input checked="" type="checkbox"/>	Nonpatent Literature _____	Other _____
Secondary Refs <input checked="" type="checkbox"/>	Foreign Patents _____	_____
Teaching Refs _____	_____	_____

What is the topic, such as the **novelty**, motivation, utility, or other specific facets defining the desired **focus** of this search? Please include the concepts, synonyms, keywords, acronyms, registry numbers, definitions, structures, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract and pertinent claims.Claims 1-8Problem: See pages 1-7Solution: 11 11 7-15**Staff Use Only**Searcher: Spencer

Searcher Phone: _____

Searcher Location: STIC-EIC2800, CP4-9C18

Date Searcher Picked Up: 3/25/04Date Completed: 3/26/04Searcher Prep/Rev Time: 180Online Time: 150**Type of Search**

Structure (#) _____

Bibliographic ☒

Litigation _____

Fulltext _____

Patent Family ☒Other ☒ ALL**Vendors**STN ☒Dialog ☒

Questel/Orbit _____

Lexis-Nexis _____

WWW/Internet _____

Other _____



STIC Search Results Feedback Form

EIC 2800

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Jeff Harrison, EIC 2800 Team Leader
571-272-2511, JEF 4B68

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 2810

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC2800 CP4-9C18



03/25/2004

10/085,607

25mar04 13:01:45 User267149 Session D1309.1

SYSTEM:OS - DIALOG OneSearch

File 2:INSPEC 1969-2004/Mar W2

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*File 2: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.

File 6:NTIS 1964-2004/Mar W3

(c) 2004 NTIS, Intl Cpyrght All Rights Res

File 8:Ei Compendex(R) 1970-2004/Mar W1

(c) 2004 Elsevier Eng. Info. Inc.

File 34:SciSearch(R) Cited Ref Sci 1990-2004/Mar W3

(c) 2004 Inst for Sci Info

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

(c) 1998 Inst for Sci Info

File 35:Dissertation Abs Online 1861-2004/Feb

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File 65:Inside Conferences 1993-2004/Mar W3

(c) 2004 BLDSC all rts. reserv.

File 94:JICST-EPlus 1985-2004/Mar W2

(c)2004 Japan Science and Tech Corp(JST)

File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Feb

(c) 2004 The HW Wilson Co.

File 144:Pascal 1973-2004/Mar W2

(c) 2004 INIST/CNRS

File 305:Analytical Abstracts 1980-2004/Mar W3

(c) 2004 Royal Soc Chemistry

*File 305: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.

File 315:ChemEng & Biotec Abs 1970-2004/Feb

(c) 2004 DECHEMA

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200419

(c) 2004 Thomson Derwent

*File 350: For more current information, include File 331 in your search. Enter HELP NEWS 331 for details.

File 347:JAPIO Nov 1976-2003/Nov(Updated 040308)

(c) 2004 JPO & JAPIO

*File 347: JAPIO data problems with year 2000 records are now fixed. Alerts have been run. See HELP NEWS 347 for details.

File 344:Chinese Patents Abs Aug 1985-2004/Mar

(c) 2004 European Patent Office

File 371:French Patents 1961-2002/BOPI 200209

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*File 371: This file is not currently updating. The last update is 200209.

Set	Items	Description
S1	3651324	LIGHT???????()EMIT???????() (DIOD? ? OR DEVICE? ?) OR LED? ? OR LUMIN??????? OR PHOTOILLUMINAT? OR ILLUMINAT? OR ILLUM? - OR ILLUMINE? OR LASER? ? OR PLD OR ELECTROLUMIN?
S2	9532	CC=B4260 OR MC=(S02-K04C OR S04-B04A OR S06-A03E1 OR S06-B- 01B2A OR T01-C04C)
S3	44935	LIGHT??????? (3N) RAY???
S4	3685350	S1:S3
S5	68316	LIGHT? (3N) EMIT? (1N) (ELEMENT? ? OR LAYER??? OR FILM??? OR C- OAT??? OR MULTILAYER??? OR MULTI() LAYER????? OR SPACER??? OR - INTERLAYER????? OR INTER() LAYER????? OR MULTIPLE() LAYER? ?)
S6	12079	ELECTRO() LUMINESCEN? (2N) ELEMENT? ? OR EL (2N) ELEMENT? ? OR - ELECTROLUMINESCENT (3N) ELEMENT? ?
S7	76928	S5:S6
S8	474826	LIGHT? (3N) (SENSOR OR SENSING OR SENSE OR SENSING OR SWITCH? OR TRANSPAREN? OR EMIT?)
S9	55918	(MONITOR????? OR MEASUR????????? OR TEST????????? OR CHECK??- ?? OR EXAMIN????? OR ANALYS??????? OR ANALYZ????????? OR VERIF?- ????????? OR IDENTIF????????? OR DETECT????????? OR SENS?????????) - (3N) LUMIN?
S10	27757	LUMIN? (3N) INTENS?
S11	74350	(LOWER OR UPPER) (3N) ((MICRO) (W) (ELECTRONIC? OR CIRCUIT? ? OR CHIP? ?) OR CHIP? ? OR MICROCIRCUIT? ? OR DIE? ? OR LOGIC(- W) CIRCUIT? ? OR WAFER? ? OR MICROELECTRONIC OR DICE OR ELECTR- ODE? ?)
S12	637954	CATHOD? OR ANOD?
S13	24295285	SUBSTRAT? OR SURFACE? OR BASE? OR SUBSTRUCT? OR UNDERSTRUC- T? OR UNDERLAY? OR FOUNDATION? OR PANE? OR DISK? OR DISC? OR - WAFER? OR CC=(A6855 OR A8115 OR B0520 OR B2570) OR MC=(T03-A0- 1B OR T03-A01B1) OR IC=G11B-005/704
S14	51144	S4 AND S7
S15	44657	S14 AND S8
S16	320	S15 AND S9
S17	32	S16 AND S10
S18	1	S17 AND S11
S19	31	S17 NOT S18
S20	1	S19 AND S12
S21	30	S19 NOT S20
S22	17	S21 AND S13
S23	16	RD (unique items)
S24	13	S21 NOT S22
S25	13	RD (unique items)
S26	43269	S1 AND S5
S27	2913	S26 AND S6
S28	85	S27 AND S11
S29	4	S28 AND S10
S30	4	RD (unique items)
S31	81	S28 NOT S29
S32	81	S31 NOT S18, S20, S21
S33	81	S32 AND S8
S34	0	S33 AND S9
S35	1	S33 AND S12
S36	80	S33 NOT S35
S37	73	S36 AND S13
S38	0	S37 AND S3
S39	30995	S1 AND (LUMIN? (3N) (INTENS? OR STRENGTH OR POWER?))
S40	205	S39 AND S6

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S41	8	S40 AND S11
S42	8	RD (unique items)
S43	8	S42 NOT S18,S20,S21,S31
S44	197	S40 NOT S43
S45	35	S44 AND S5
S46	35	S45 AND S8
S47	0	S46 AND S9
S48	7	S46 AND S12
S49	7	RD (unique items)
S50	7	S49 NOT S18,S20,S21,S31,S42
S51	28	S46 NOT S50
S52	10	S51 AND S13
S53	10	RD (unique items)
S54	10	S53 NOT S18,S20,S21,S31,S42,S49
S55	18	S51 NOT S52
S56	18	RD (unique items)
S57	18	S56 NOT S18,S20,S21,S31,S42,S49,S53

18/3,AB/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

07392350

EMITTER AND LIGHT-EMITTING SYSTEM

PUB. NO.: 2002-260851 [JP 2002260851 A]
PUBLISHED: September 13, 2002 (20020913)
INVENTOR(s): HAYASHI KAZUHIKO
FUKUCHI TAKASHI
TSUBOI SHINZO
APPLICANT(s): NEC CORP
APPL. NO.: 2001-052741 [JP 200152741]
FILED: February 27, 2001 (20010227)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an emitter in which unevenness of luminance and color balance drop can be sufficiently suppressed and which can detect with good sensitivity the strength of emission of the element as it can introduce effectively the light emitted from the light-emitting element to a luminous intensity sensor, and in which the light-emitting element and luminous intensity sensor do little affect each other adversely, and a light-emitting system applied with this emitter.

SOLUTION: The emitter comprises a light-emitting element and a light sensor for detecting the luminous intensity emitted from this light-emitting element, and the above light-emitting element comprises a lower electrode and an upper electrode that has a luminous material layer containing at least a luminous layer and translucency on the substrate in order, and one of the lower electrode and upper electrode is a negative electrode and the other is a positive electrode, and the above light sensor is formed on the above light-emitting element.

20/3,AB/1 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
(c) 2004 INIST/CNRS. All rts. reserv.

14792093 PASCAL No.: 00-0472174

Native oxidized AlAs current blocking **layer** for AlGaInP high
brightness **light emitting** diodes

Light-emitting diodes : research, manufacturing, and
applications IV : San Jose CA, 26-27 January 2000

WANG G; MA X; ZHANG Y; WANG S; LI Y; CHEN L

YAO H Walter, ed; FERGUSON Ian T, ed; SCHUBERT E Fred, ed

National Engineering Research Center for Optoelectronics Devices,
Institute of Semiconductors, Chinese Academy of Sciences, China

International Society for Optical Engineering, Bellingham WA, United
States

Light-emitting diodes, 4 (San Jose CA USA) 2000-01-26

Journal: SPIE proceedings series, 2000, 3938 154-157

Language: English

Native Oxide AlAs layer were employed to block the current injection from
the top **anode**. The **luminous intensity** exceeded 75mcd of
the **LED** chip with native oxide AlAs layer sandwiched 5 μ m AlGaAs
current spreading layer under 20mA current injection. Electrical and
optical properties the **LED** chip and plastically sealed lamp were
measured. Aging of the **LED** chip and lamp were performed under 70
Degree C and room temperature, Experiment results shown that there is no
apparent effect of the native oxidized AlAs layer and the process on the
reliability of the **LED** devices.

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23/3,AB/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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04319107 INSPEC Abstract Number: A9304-7865-014, B9302-4220-004

Title: **Light emitting** intelligent Langmuir-Blodgett films

Author(s): Kurosawa, S.; Sugai, K.; Miyata, S.

Author Affiliation: Dept. of Mater. Syst. Eng., Tokyo Univ., Japan

Conference Title: First European Conference on Smart Structures and Materials p.407

Editor(s): Culshaw, B.; Gardiner, P.T.; McDonach, A.

Publisher: IOP, Bristol, UK

Publication Date: 1992 Country of Publication: UK xvi+418 pp.

ISBN: 0 7503 0222 4

Conference Sponsor: Eur. Opt. Soc.; SPIE; Smart Structures Res. Inst.; IOP; Glasgow Dev. Agency; EEC; IEEE; IEE; OSA; IMechE; et al

Conference Date: 12-14 May 1992 Conference Location: Glasgow, UK

Language: English

Abstract: Summary form only given. If one could introduce noncentrosymmetry in molecular assemblies and fabricate a cavity with a mirror and a grating mirror at both edges of a device, the **luminescent** light will be amplified in the cavity to permitting **laser** light. A second harmonic light is then generated due to the noncentrosymmetric molecular assembly in the cavity. This newly designed **laser** emitting device can be classified as one of the intelligent materials because it manifests simultaneously three fundamental functions: as a **sensor** responding **luminescent intensity**, and an actuator for **emitting** shorter **laser light**. This hybridization of organic dyes with rare metal ions offers multifunctional new devices. The Langmuir-Blodgett technique is one of the most suitable methods to hybridize organic dyes with **luminous** ionic materials. The **luminescent** characteristics of europium LB films of behenamidobenzoate are **discussed**.

Subfile: A B

23/3,AB/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

04274765 INSPEC Abstract Number: B9212-7620-004

Title: A new optical pressure measurement system (OPMS)

Author(s): Vollan, A.; Alati, L.

Conference Title: ICIASF '91 Record. International Congress on Instrumentation in Aerospace Simulation Facilities (Cat. No.91CH3028-8) p.10-16

Publisher: IEEE, New York, NY, USA

Publication Date: 1991 Country of Publication: USA 464 pp.

U.S. Copyright Clearance Center Code: CH3028-8/91/0000-0010\$1.00

Conference Sponsor: IEEE

Conference Date: 27-31 Oct. 1991 Conference Location: Rockville, MD, USA

Language: English

Abstract: The OPMS allows the measurement of pressure distribution over the whole **surface** of a wind tunnel model without pressure orifices, tubing and wiring. The model is simply coated with **luminescence intensity** pressure **sensor** paint which is **illuminated** by a **laser** light source. Due to the oxygen quenching of the molecules in the active paint **layer**, the intensity of the **emitted**

light from the model **surface** differs according to the different pressures acting on the **surface**. The **emitted light** is then recorded by means of a sensitive charge-coupled-device (CCD) camera which transmits the detected information to a processing unit, allowing reconstruction of the pressure distribution.

Subfile: B

23/3,AB/3 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R).Cited Ref Sci
(c) 2004 Inst for Sci Info. All rts. reserv.

07304442 Genuine Article#: 148DM Number of References: 37
Title: Optical and electron paramagnetic resonance study of **light-emitting Si⁺ ion implanted silicon dioxide layers** (ABSTRACT AVAILABLE)
Author(s): Valakh MY (REPRINT) ; Yukhimchuk VA; Bratus VY; Konchits AA; Hemment PLF; Komoda T
Corporate Source: NATL ACAD SCI UKRAINE, INST SEMICONDUCT PHYS, PROSPECT NAUKY 45/UA-252028 KIEV//UKRAINE/ (REPRINT); UNIV SURREY, SCH ELECT ENGN, INFORMAT TECHNOL & MATH/GUILDFORD GU2 5XH/SURREY/ENGLAND/; MATSUSHITA ELECT WORKS LTD, CENT RES LAB/KADOMA/OSAKA 571/JAPAN/
Journal: JOURNAL OF APPLIED PHYSICS, 1999, V85, N1 (JAN 1), P168-173
ISSN: 0021-8979 Publication date: 19990101
Publisher: AMER INST PHYSICS, CIRCULATION FULFILLMENT DIV, 500 SUNNYSIDE BLVD, WOODBURY, NY 11797-2999
Language: English Document Type: ARTICLE
Abstract: Thermally grown SiO₂ on Si **substrates** implanted with Si⁺ ions with a dose of $6 \times 10^{16} \text{ cm}^{-2}$ were studied by the techniques of photoluminescence, electron paramagnetic resonance (EPR), and low-frequency Raman scattering. Distinct oxygen-vacancy associated defects in SiO₂ and nonbridging oxygen hole centers were **identified** by EPR. The **luminescence intensity** in the 620 nm range was found to correlate with the number of these defects. The low-frequency Raman scattering technique was used to estimate the average size of the Si nanocrystallites formed after the implantation and thermal annealing at T > 1100 degrees C, which are responsible for the photoluminescence band with a maximum at 740 nm. The intensity of this band can be significantly enhanced by an additional treatment in a low-temperature rf plasma. (C) 1999 American Institute of Physics. [S0021-8979(99)09801-1].

23/3,AB/4 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014304535
WPI Acc No: 2002-125238/200217
XRAM Acc No: C02-038518
XRPX Acc No: N02-093866

Luminescent element for display devices such as personal computers, comprises substance containing guest and host material, produces emission spectrum at preset wavelength, when irradiated with electricity
Patent Assignee: TORAY IND INC (TORA)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 2001118683 A 20010427 JP 2000223449 A 20000725 200217 B

Priority Applications (No Type Date): JP 99228353 A 19990812

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 2001118683 A 7 H05B-033/14

Abstract (Basic): JP 2001118683 A

Abstract (Basic):

NOVELTY - The **luminescent** element comprises a substance containing a guest material and a host material, placed between a positive and a negative electrode plates. The host material in the **element emits light** when irradiated with electrical energy, and produces peak emission spectrum at 300-460 nm.

USE - For display devices such as personal computers, monitors and televisions, and also in flat **panel** display, back-light, **illumination**, interior, labeling, sign board, electrophotography and signal generators

ADVANTAGE - The **luminescent** element excels in color purity and produce **luminescence** with high **intensity**. The element emits blue **luminescence** at 300-460 nm.

pp; 7 DwgNo 0/0

23/3,AB/5 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013629888

WPI Acc No: 2001-114096/200113

XRPX Acc No: N01-083833

Strobe device for an image capturing apparatus, camera and lens fitted **film** unit and strobe **light** reflector has a **light emitting** tube to **emit** strobe **light** and an optical **panel** transmitting the light

Patent Assignee: KONICA CORP (KONS)

Inventor: HOSAKA T; ISHIDA K; MASUDA T; MORI N

Number of Countries: 027 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1067427	A2	20010110	EP 2000305629	A	20000704	200113 B
JP 2001051327	A	20010223	JP 99228576	A	19990812	200115
JP 2001021960	A	20010126	JP 99190776	A	19990705	200121
JP 2001117144	A	20010427	JP 99322531	A	19991112	200130
JP 2001117151	A	20010427	JP 99358974	A	19991217	200130
US 6480679	B1	20021112	US 2000610453	A	20000705	200278

Priority Applications (No Type Date): JP 99358974 A 19991217; JP 99190776 A 19990705; JP 99228576 A 19990812; JP 99228577 A 19990812; JP 99228578 A 19990812; JP 99322531 A 19991112

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 1067427 A2 E 51 G03B-015/05

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

JP 2001051327 A 5 G03B-015/05

JP 2001021960 A 8 G03B-015/05

JP 2001117144 A 6 G03B-015/05

JP 2001117151 A 7 G03B-015/05

US 6480679 B1 G03B-015/03

Abstract (Basic): EP 1067427 A2

Abstract (Basic):

NOVELTY - Strobe device reflects strobe **light**, **light emitting tube** (11) **emits** the strobe **light** and an optical **panel** to transmit the light. The strobe light has a maximum **luminous intensity** arranged (21-25) in a direction different from a direction of a strobe light axis. The device has a side reflection **surface** with a sub-reflection **surface** orthogonal to a longitudinal direction of the **light emitting device**.

DETAILED DESCRIPTION - Independent claims describe an image capturing device and a reflector employed for a strobe device.

USE - As a strobe device for an image capturing apparatus, camera and lens fitted film unit and strobe light reflector.

ADVANTAGE - Could brightly **illuminate** a periphery of the subject and specifically make it possible to obtain desirable distribution characteristics of the **luminous intensity** even when image capturing is conducted with a wide angle photographic lens.

DESCRIPTION OF DRAWING(S) - The drawing shows an arrangement of several photo-sensors for measuring an amount of strobe **light emitted** from the strobe device.

the **light emitting** part of the strobe device (11)

the photo **sensors** for obtaining the **luminous intensity** (21 to 25)

pp; 51 DwgNo 2/34

23/3,AB/6 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012249454

WPI Acc No: 1999-055561/199905

XRPX Acc No: N99-042087

Traffic information display board installed outdoors - has light guide path to receive external light at one end and other end provided with measuring **element** to measure intensity of received **light** based on which **light emitting element** is controlled

Patent Assignee: NIPPON SIGNAL CO LTD (NIUG)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10307553	A	19981117	JP 97118149	A	19970508	199905 B

Priority Applications (No Type Date): JP 97118149 A 19970508

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10307553	A		3	G09F-013/04	

Abstract (Basic): JP 10307553 A

The display board has a light guide path (5) whose one end is open to receive external light. A measurement element (7) provided at the other end of the light guide path is used for **measuring** the **luminosity** of the outside light. **Based** on the value of **luminosity**, the **intensity** of **light** from a **light emitting element** is adjusted.

ADVANTAGE - Enables tapping external light resources.

Dwg.1/2

23/3,AB/7 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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06467413

COLOR LIGHT SYSTEM SIGNAL FOR RAILWAY, AND LIGHTING EQUIPMENT AND CONTROL
DEVICE THEREFOR

PUB. NO.: 2000-052988 [JP 2000052988 A]
PUBLISHED: February 22, 2000 (20000222)
INVENTOR(s): SUZUKI ISAMU
SUMIYAMA YOSHIHIRO
HIROMITSU TSUTOMU
APPLICANT(s): DAIDO SIGNAL CO LTD
APPL. NO.: 10-231501 [JP 98231501]
FILED: August 18, 1998 (19980818)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a signal system capable of automatically measuring light emission intensity.

SOLUTION: A lighting equipment 9 for a color light system signal for railway is provided with a light source with a large number of **light emitting elements** 96 provided uniformly in the **light emitting** direction, a **light** translucent cover 94 surrounding this light source from the **light emitting** direction side, and a light guide member 100 provided on the light source side and having a light entering part facing the cover 94. The light guide member 100 is extended outside the equipment by a quartz fiber 105 through an optical connector 103 provided in the equipment. In the cover 94 fitted with a reflecting film 200, the reflectance of the inner **surface** is partially strengthened, so that reflected light can be received by the light guide member 100, and moreover visibility and productivity are not impaired. The detection value photoelectrically transferred outside the lighting equipment 9 has little noise and is subjected to degradation **detection** and **luminous intensity** adjustment by a control device.

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23/3,AB/8 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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06187975

FLUORESCENT PRINTER

PUB. NO.: 11-129525 [JP 11129525 A]
PUBLISHED: May 18, 1999 (19990518)
INVENTOR(s): NAKAMURA SHIGETAKA
MORISHIMA HIROMICHI
APPLICANT(s): NORITSU KOKI CO LTD
APPL. NO.: 09-300407 [JP 97300407]
FILED: October 31, 1997 (19971031)

ABSTRACT

PROBLEM TO BE SOLVED: To prevent an emission **intensity** of a **luminous** body from being influenced by various thermal conditions to the **luminous** body by controlling an output from a print head for

exposing by means of a temperature compensating mechanism in accordance with real time information in terms of a temperature of the **luminous** body **detected** by a temperature detecting means.

SOLUTION: When a film 2 is supplied to an optical exposure device 20 by a roller 11 driven by a motor 12, a controller 7 controls a dimmer filter 22 **based** on image information of the film 2 read by a scanner 10. As a result, an emission light of a light source 21 is tuned to be in a color balance corresponding to a color density of the image of the **film 2**. The optical exposure device 20 **emits** the tuned **light** to the **film 2** and to a photographic paper 3 positioned on an exposure point 1 by making a permeation light **based** on the image information of the film 2, thereby forming the image on the film to the photographic paper 3. The photographic paper 3 having the formed image is conveyed to a developing operation section 5 by means of a paper conveying mechanism 6.

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23/3,AB/9 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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05471184
IMAGE FORMING DEVICE AND IMAGE FORMATION

PUB. NO.: 09-085984 [JP 9085984 A]
PUBLISHED: March 31, 1997 (19970331)
INVENTOR(s): NAKANO MASAO
APPLICANT(s): CANON INC [000100] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 07-244917 [JP 95244917]
FILED: September 22, 1995 (19950922)

ABSTRACT

PROBLEM TO BE SOLVED: To improve the quality of an image by eliminating the adverse effect of an unevenness in the **luminous intensity** of a **light emitting element**, in a device for forming an image using plural **light emitting elements**.

SOLUTION: An image processing device 30 loads in the memory the multivalued data di of an image signal 40 from an external source, then reads a weight factor **based** on the data relative to the previously **measured luminescent intensity** of each of **LEDs** of an **LED** array, and multiplies the multivalued data di by the weight factor of each of the corresponding **LEDs** to perform the binary processing of data relative to the calculation result by an error dispersion method. Further, the two-valued signal obtained by this binary processing is connected to an **LED driver 20**, and the **light emitted** by each of the **LEDs** of the **LED** array is switched ON/OFF to form a latent image on a latent image carrier moving in an orthogonal direction with the **LED** array 10. In addition, the latent image is developed by a publicly known electrophotographic recording method, and then is transferred to a recording paper. Finally, the paper is thermally fixed and **discharged**.

23/3,AB/10 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO
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05186906

METHOD AND APPARATUS FOR CORRECTING WIDTH OF **LUMINOUS INTENSITY**
OF **LED** PRINTING HEAD

PUB. NO.: 08-142406 [JP 8142406 A]

PUBLISHED: June 04, 1996 (19960604)

INVENTOR(s): NAKAJIMA NORIO

TSUKAGOSHI HISASHI

KAMIMURA KATSUYA

AIKO SADAHISA

APPLICANT(s): OKI ELECTRIC IND CO LTD [000029] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 07-242766 [JP 95242766]

FILED: September 21, 1995 (19950921)

ABSTRACT

PURPOSE: To eliminate printing density irregularity by **measuring** the **luminous intensity** distribution of **LED** elements and slicing the same by reference **luminous intensity** to calculate the width of **luminous intensity** and setting the correction values of the drive energies of respective **light emitting elements** so as to make the calculated value constant.

CONSTITUTION: An **LED** printing head 1 is equipped with a **substrate** 5 having an **LED** chip 2 wherein a large number of the **LED elements** of **light emitting elements** are gathered, the drive circuits 3 driving the respective **LED** elements and a non-volatile memory means 4 storing the correction values of drive energies. Further, the **LED** printing head 1 is equipped with the frame 6 supporting the **substrate** 5, a lens 7 and a housing 8. In this case, the **luminous intensity** distribution of the **LED** printing head 1 is **measured** and the **measured luminous intensity** distribution is sliced by reference **luminous intensity**. The correction values of the drive energies of the respective **light emitting elements** are set so that the width of the **luminous intensity** at every reference **luminous intensity** becomes constant and stored in the memory means 4.

23/3,AB/11 (Item 5 from file: 347)

DIALOG(R)File 347:JAPIO

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04042411

END PART DETECTING APPARATUS

PUB. NO.: 05-034111 [JP 5034111 A]

PUBLISHED: February 09, 1993 (19930209)

INVENTOR(s): SHIBUKAWA KIYOSHI

KOBAYASHI KOJI

APPLICANT(s): NIRECO CORP [327418] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 03-212914 [JP 91212914]

FILED: July 30, 1991 (19910730)

JOURNAL: Section: P, Section No. 1557, Vol. 17, No. 314, Pg. 56, June 15, 1993 (19930615)

ABSTRACT

PURPOSE: To decrease the change in **luminance** of a **light emitting** part and to make the effect of disturbance light difficult to receive.

CONSTITUTION: An object to be measured 3 is inserted between a light projecting part 1 and a light receiving part 2, and the position of the end part is measured. At this time, **light emitting** diodes L(sub 1)-L(sub n) which are connected to the **light emitting** part 1 in series are arranged. A **luminous-intensity detecting light emitting diode** SL, which is connected to the **light emitting** diodes in series, is arranged so as to face a photoelectric conversion **element**. The current of the **light emitting diode** is controlled so that the current of the photoelectric conversion element becomes the specified value with a **luminous-intensity** controlling part. The **light** is intermittently **emitted** from the **light emitting diode**. A visible-**light** cutting filter 5, which can pass only the wave length in the vicinity of near infrared rays, is provided at a light receiving **surface**.

23/3,AB/12 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO
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03427470
OPTICAL OUTPUT ADJUSTMENT OF LINE HEAD

PUB. NO.: 03-090370 [JP 3090370 A]
PUBLISHED: April. 16, 1991 (19910416).
INVENTOR(s): ETO YOSHIRO
APPLICANT(s): TOKYO ELECTRIC CO LTD [000356] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-228592 [JP 89228592]
FILED: September 04, 1989 (19890904)
JOURNAL: Section: M, Section No. 1133, Vol. 15, No. 267, Pg. 40, July 08, 1991 (19910708)

ABSTRACT

PURPOSE: To improve print quality by **measuring** the **luminous intensity** of each edge emitting type **EL element** and removing part of at least, the electrode layer of a specified edge emitting type **EL element** based on the measurement value.

CONSTITUTION: In an adjustment device 9, data detected from an edge emitting type **EL element** 2 is output to a control circuit 15, and a **laser** head 14 controlled by the control circuit 15 removes the electrode layer 6 of a specified edge emitting type **EL element** by a specified length. Then, the **luminous intensity** of the element 2 decreases to make the light output of a line head 8 uniform. The line head 8 adjusted in this way makes, for example, the toner quantity attracted by a photosensitive drum or the color development of photosensitive paper uniform. Thus these features of the line head 8 contribute to the manufacture of a line printer capable of high-quality print.

23/3,AB/13 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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03303384

**LUMINOUS INTENSITY VARIABLE TESTING CIRCUIT FOR
LIGHT EMITTING DIODE**

PUB. NO.: 02-278884 [JP 2278884 A]
PUBLISHED: November 15, 1990 (19901115)
INVENTOR(s): TSUNASHIMA HIROSHI
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 01-102134 [JP 89102134]
FILED: April 20, 1989 (19890420)
JOURNAL: Section: E, Section No. 1029, Vol. 15, No. 46, Pg. 90,
February 04, 1991 (19910204)

ABSTRACT

PURPOSE: To simultaneously conduct tests of a **light emitting diode** and a driving circuit by applying a defect signal to the **base** of a driving semiconductor terminal element to control it at the time of defect occurrence, generating a test signal at the time of testing the diode, and applying it to the **base** of the terminal element to control it.

CONSTITUTION: A **light emitting diode** 1 is connected in series with a driving semiconductor 3 terminal element 2 for lighting it, one end of the circuit is connected to a DC voltage, and the other one end is connected to a ground. Defect signal output means 3 for applying a signal corresponding to the defect to the **base** of the element 2 when a defect occurs, to light the diode 1 to **emit a light**, and test signal generating means 4 for generating a test signal by turning ON, OFF a switch 5 applied at one end with a DC voltage, applying the test signal to the **base** of the **element** 2 to **emit a light** with the diode 1 set in a quasi-lighting state are provided. The element 2 is controlled so that the diode 1 can display both **light emitting** states of a **lighting** state and a quasi-lighting state. Thus, when the diode is tested, the tests of the diode and the driving circuit can be concurrently performed.

23/3,AB/14 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO
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02947072

MANUFACTURE OF LIGHT EMITTING DIODE ARRAY ELEMENT

PUB. NO.: 01-244672 [JP 1244672 A]
PUBLISHED: September 29, 1989 (19890929)
INVENTOR(s): KIYOHASHI KAZUO
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-072286 [JP 8872286]
FILED: March 25, 1988 (19880325)
JOURNAL: Section: E, Section No. 865, Vol. 13, No. 581, Pg. 126,
December 21, 1989 (19891221)

ABSTRACT

PURPOSE: To eliminate the **luminous** irregularity of elements, and improve the yield, by **measuring luminous intensity** distribution in a semiconductor crystal plate, making the arrangement

direction of a **light emitting diode array element** coincide with the direction wherein the inclination of **luminous intensity** distribution is small, and patterning the element in this state.

CONSTITUTION: Photo **luminescence intensity** in the **surface** of a GaAs(sub 0.61)P(sub 0.39) crystal **substrate** is measured at every 5mm intervals by using a helium neon gas **laser**. After the intensity distribution measurement, patterning of a **light emitting diode array element** having 64 **light emitting diodes** 7(sub 01), 7(sub 02), ..., 7(sub 64) in a pellet is performed. At this time, the cleavage direction near the direction whose photo **luminescence intensity** distribution inclination is small is selected out of two cleavage direction of the GaAs(sub 0.61)P(sub 0.39) crystal **substrate** whose photo **luminescence intensity** distribution **measurement** is finished. The element is subjected to patterning, by making the above cleavage direction coincide with the arrangement direction of the **light emitting diode array element**. A selective diffusion window is formed by using a nitride film, a P-N junction is formed by zinc diffusion, and ohmic electrodes are formed by using aluminum for the P-side and using gold system alloy for the N-side.

23/3,AB/15 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO
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02851342

RETARDATION MEASURING APPARATUS ..

PUB. NO.: 01-148942 [JP 1148942 A]
PUBLISHED: June 12, 1989 (19890612)
INVENTOR(s): YOSHII MASAKI
EBINUMA NAOTAKE
KANEDA AIZO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 62-307512 [JP 87307512]
FILED: December 07, 1987 (19871207)
JOURNAL: Section: P, Section No. 930, Vol. 13, No. 406, Pg. 163,
September 08, 1989 (19890908)

ABSTRACT

PURPOSE: To measure the retardation of an object to be measured having a light impervious film provided to the single **surface** thereof, by providing a polarizer and a 1/4 wavelength plate to a reciprocating optical system formed by the reflection of the **light emitting** from a measuring **light** source by the **film** formed to the object to be measured.

CONSTITUTION: The beam 16 emitted from **laser** 2 reciprocates in an object 5 to be measured by a polarizer 3, a 1/4 wavelength plate 4 and the reflecting film 5b on the object 5 to be measured to return to a light detector 8 through the wavelength plate 4 and the polarizer 3. The intensity of the returned light 16' is inputted too a CPU 17 through an A/D converter 10'. In the **measurement of luminous intensity**, the wavelength plate 4 is rotationally adjusted by a pulse motor 9 controlled by the CPU 17 so that the intensity of the return beam 16' becomes max. The beam intensity at that time is stored and the rotary

position of the wavelength plate 4 is stored and, further, the wavelength plate is rotated by 45 deg. and the intensity of the return beam at that time is stored. By this operation, the retardation of the reciprocating path of the object 5 to be measured can be calculated.

23/3,AB/16 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO
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02521887

LINEAR LIGHT-EMITTING ELEMENT

PUB. NO.: 63-138787 [JP 63138787 A]
PUBLISHED: June 10, 1988 (19880610)
INVENTOR(s): NISHIURA SHINJI
UENO MASAKAZU
APPLICANT(s): FUJII ELECTRIC CO LTD [000523] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 61-286451 [JP 86286451]
FILED: December 01, 1986 (19861201)
JOURNAL: Section: E, Section No. 672, Vol. 12, No. 397, Pg. 70,
October 21, 1988 (19881021)

ABSTRACT

PURPOSE: To reduce the title element in size and moreover, to obtain a uniform **luminous intensity** by a method wherein a thin **film semiconductor layer** to **emit light** on energization is provided between a plurality of individual electrodes and a common electrode opposed to the individual electrodes and a common terminal part is provided through connecting parts, to which a conductive layer to form each individual electrode is extended to adjust a sectional area.

CONSTITUTION: Individual electrode parts 21 consisting of a transparent conductive film, connecting parts 22 protruding from the individual electrode parts and a common terminal part 23 being coupled with each connecting part are provided on a transparent insulative **substrate 1** and a semiconductor layer 3 is mask-formed into a pattern. Then, the pattern of a metal electrode 4 is mask-formed from Al, titanium, chrome and so on by a deposition method and is used as a common electrode. Then, a voltage is applied between the common terminal part 23 and the common electrode 4, the semiconductor layer 3 is made to emit and the connecting parts 22 being connected to the individual electrodes 21 are trimmed with **laser light** in such a way that the **measured** value of the **luminous intensity** in the center of the part equivalent to each individual electrode 21 becomes constant. Thereby, a linear **light-emitting element** having a good uniformity can be easily obtained.

25/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC
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00272124 INSPEC Abstract Number: B71021529
Title: Phase-shifting bridge having photocells and electroluminescence elements
Inventor(s): Kohashi, T.
Assignee(s): Matsushita Electric Industrial Co. Ltd
Patent Number: US 3571601 Issue Date: 710323
Application Date: 681008
Priority Appl. Number: JP 42/66764 ***Priority Appl. Date: 671013
Country of Publication: USA
Language: English
Abstract: An energy-sensitive luminescent device having means including an energy-sensitive element whose impedance is variable depending on an energy signal applied thereto so that a variation in the impedance thereof can be utilized for shifting the phase of an AC voltage applied from an AC voltage supply to an electrically luminescent element, and means for detecting the variation in the phase of the waveform of the luminous output from the electrically luminescent element as a variation in the luminous intensity.
Subfile: B

25/3,AB/2 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
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15776330 PASCAL No.: 02-0489842
Intercalation of 8-hydroxyquinoline into Al-smectites by solid-solid reactions
KHAORAPAPONG Nithima; KURODA Kazuyuki; OGAWA Makoto
Department of Applied Chemistry, Waseda University, Okubo-3, Shinjuku-ku, Tokyo 169-8555, Japan; Kagami Memorial Laboratory for Materials Science and Technology, Waseda University, Nishiwaseda-2, Shinjuku-ku, Tokyo 169-0051, Japan; Department of Earth Sciences, Waseda University, Nishiwaseda-1, Shinjuku-ku, Tokyo 169-8050, Japan; PRESTO, Japan Science and Technology Corporation, Japan
Journal: Clays and clay minerals, 2002, 50 (4) 428-434
Language: English
Tris(8-hydroxyquinoline)aluminum(III) complexes (Alq SUB 3), one of the molecules studied most widely for organic light-emitting devices, were formed in the interlayer spaces of smectites by solid-solid reactions between Al-smectites (Al-montmorillonite and Al-synthetic saponite (Sumection)) and 8-hydroxyquinoline (8Hq) at room temperature. The intercalation of 8-hydroxyquinoline molecules into Al-smectites was demonstrated by powder XRD, FTIR, DTA, TG, TG-MS, and chemical analysis. The coordination of the ligand to the interlayer Al cations was proved by FTIR, UV-Vis, and photoluminescence spectroscopies. The luminescence intensity of Alq SUB 3 -Sumection was much greater than that of Alq SUB 3 -montmorillonite, and this was ascribed to the very small amount of quenching impurities in Sumection.

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25/3,AB/3 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal
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15717785 PASCAL No.: 02-0427459

An optical sensing material for trace analysis of oxygen.

Metalloporphyrin dispersed in poly(1-trimethylsilyl-1-propyne) film

AMAO Yutaka; OKURA Ichiro; SHINOHARA Hiromi; NISHIDE Hiroyuki

Department of Applied Chemistry, Oita University, Dannoharu, Oita 870-119, Japan; Department of Bioengineering, Tokyo Institute of Technology, Nagatsuta, Midori-ku, Yokohama 226-8501, Japan; Department of Polymer Chemistry, Waseda University, Okubo, Shinjuku, Tokyo 169-8555, Japan

Journal: Polymer journal, 2002, 34 (6) 411-417

Language: English

A highly gas permeable polymer, poly(1-trimethylsilyl-1-propyne) (poly(TMSP)), was applied as a matrix of the optical oxygen sensor using the oxygen-induced **luminescence** quenching of octaethylporphyrin (OEP) platinum (PtOEP) or palladium complex (PdOEP). OEP complex was homogeneously dispersed in poly(TMSP) to give a mechanical tough film with thickness of 10 μ m. The **luminescence intensity** of OEP complex dispersed in the poly(TMSP) films drastically decreased with an increase in oxygen concentration. The oxygen sensitivity of the film ($I_{SUB 0} / I_{SUB 1 SUB 0 SUB 0}$) was very high and estimated to be 225 for PtOEP and 121 for PdOEF, respectively. The Stern-Volmer constants of PtOEP and PdOEP dispersed in poly(TMSP) films are estimated to be 6.6 and 17% SUP - SUP 1, respectively. These results indicate that OEP metal complex dispersed in the poly(TMSP) films are novel optical sensing material for trace analysis of oxygen.

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25/3,AB/4 (Item 3 from file: 144)

DIALOG(R)File 144:Pascal

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11676957 PASCAL No.: 94-0536243

Novel metal-organic ruthenium(II) diimin complexes for use as longwave excitable **luminescent** oxygen probes

KLIMANT I; BELSER P; WOLFBEIS O S

Karl-Franzens univ., inst. organic chemistry, analytical div., 8010 Graz, Austria

Journal: Talanta : (Oxford), 1994, 41 (6) 985-991

Language: English

New ruthenium(II) diimine complexes are presented which are useful as **luminescent** oxygen probes. Because their **luminescence** excitation maxima are between 535 and 570 nm, they can be photo-excited by green **LEDs** which are much brighter than the blue **LEDs** used so far for existing Ru diimines. The spectral and photophysical properties as well as the solubility properties of the new probes are investigated and discussed in terms of quenching, photostability, and lifetimes. The probes were incorporated into organic polymers by three different methods, to obtain oxygen-sensitive materials for use in optical oxygen sensing. The membranes were characterized with respect to oxygen **sensitivity**, **luminescence intensity**, response times, and stability

25/3,AB/5 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014985657

WPI Acc No: 2004-174059/200417

XRPX Acc No: N04-138588

Light emitting diode arrangement method for display,
involves arranging **light emitting diode** with same
luminous intensity in sequential order, using **measured**
luminous intensity of diodes

Patent Assignee: TOYODA GOSEI KK (TOZA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2004047620	A	20040212	JP 2002201358	A	20020710	200417 B

Priority Applications (No Type·Date)::JP 2002201358 A 20020710

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2004047620	A		12	H01L-033/00	

Abstract (Basic): JP 2004047620 A

Abstract (Basic):

NOVELTY - A **luminous intensity** of each **light emitting diode (LED)** is measured and stored. The **light emitting diodes** with same **luminous intensity** is arranged in sequential order, using the stored **luminous intensity**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) **light emitting element** arrangement method;
- (2) **light emitting diode** arranging apparatus; and

- (3) **light emitting element** arranging apparatus.

USE - For arranging **light emitting diodes** used for display.

ADVANTAGE - Uniform **light dispersion of light emitting diode or light emitting element** is obtained.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of **light emitting diode** arrangement apparatus. (Drawing includes non-English language text).

pallet (25)
data (26)
computer (27)
robot (28)
taping (30)
pp; 12 DwgNo 3/5

25/3,AB/6 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008.044529

WPI Acc No: 1989-309641/198942

XRAM Acc No: C89-137094

XRPX Acc No: N89-235922

New **light emitting probe complex** for measuring pH - enables
microscopic pH to be measured and comprises poly-pyridine ligand and
transition metal ion

Patent Assignee: KENKYUSHO R (KENK-I); TERUMO CORP (TERU); RIKAGAKU
KENKYUSHO (RIKA)

Inventor: ASAKURA T; KANEKO M; NAKAMURA H; SHIMOMURA T; SUGISE H

Number of Countries: 010 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 8909400	A	19891005	WO 89JP314	A	19890324	198942 B
JP 1244362	A	19890928	JP 8871630	A	19880325	198945
AU 8932974	A	19891016				199008
EP 408748	A	19910123	EP 89903803	A	19890324	199104
US 5118405	A	19920602	WO 89JP314	A	19890324	199225
			US 90582176	A	19900925	
EP 408748	A4	19910131	EP 89903803	A	19890000	199515

Priority Applications (No Type Date): JP 8871630 A 19880325

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8909400	A	J	16		
Designated States (National): AU US					
Designated States (Regional): BE DE FR GB IT NL SE					
EP 408748	A				
Designated States (Regional): BE DE FR GB IT NL SE					
US 5118405	A		7	G01N-027/26	Based on patent WO 8909400

Abstract (Basic): WO 8909400 A

Light emitting complex for pH measurement which comprises a polypyridine ligand (1) and a transition metal ion (2). (1) has an ionisable ring carbon substit. e.g. CO₂H, SO₃H, OH, NH₄ or a pyridinium gp. and is 4,4'-dihydroxy- or 4,4'-disulphonic acid-2,2'-bipyridine, etc. (2) is an ion of a gp. VIII element e.g. indium, ruthenium, osmium, iron, rhodium. Examples of the complex are tris(4,4'-dicarboxy-2,2'-bipyridine) tris(4,4'-disulphonic acid-2,2'-bipyridine)- or tris(bathophen anthroline-disulphonic acid)-ruthenium (II) complex etc. A polymer **film** contg. the probe complex furnishes a **light emitting probe film** for measuring pH. By attaching the probe film to the extremity of an optical fibre another pH measurement instrument is obtd. In the method of measuring pH the strength of the **light emitted** from the probe complex is measured.

USE/ADVANTAGE - The complex enables microscopic measurement of pH.
1/1

Abstract (Equivalent): US 5118405 A

A pH is **measured** by **detecting** the **luminescence intensity** of the excited state of a **luminescent** probe complex in a test soln using a device consisting of (A) a **luminescent** probe complex comprising a polypyridine ligand having an ion dissociable substituent on a carbon ring and a gp. 8 transition metal and (B) a macromolecular membrane containing (A) and immobilised at the tip of an optical fibre.

The device is pref. irradiated with light having a wavelength (near) lambda max and **luminescence intensity** of the probe complex is measured.

ADVANTAGE - The pH at a local site can be readily measured

25/3,AB/7 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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07023622

OPTICAL TRANSMITTER AND OPTICAL TRANSMISSION SYSTEM

PUB. NO.: 2001-251254 [JP 2001251254 A]
PUBLISHED: September 14, 2001 (20010914)
INVENTOR(s): YAMAKI KAZUYOSHI

SERIZAWA HIDEYUKI
APPLICANT(s): OPNEXT JAPAN INC
APPL. NO.: 2000-067151 [JP 200067151]
FILED: March 07, 2000 (20000307)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an optical transmitter the modulated optical output of which is made constant, even when an α parameter is set in matching with an optical transmission system, in order to apply the optical transmitter to an optional system and in order to compensate an optical element characteristic against time aging deterioration and to provide a highly reliable optical transmission system using the transmitter.

SOLUTION: Since a **light emitting element** backward output **luminous intensity detected** by a PD 6 depends on a **light emitting element** drive current and an electric field absorption amount of an EA optical modulator 4 detected by an electric field absorption amount monitor 25 depends on the output **light of a light emitting element** 5 and an EA optical modulation drive point of a drive section 8, taking the difference between both a value of the PD 6 and a value of the electric field absorption amount monitor 25 can detect only the fluctuating components of the EA optical modulator drive point. Then a modulated light output 7 can be compensated automatically, even if the EA optical modulator drive point is changed due to control of the α parameter and fluctuations in the secular deterioration of the **light emitting element**, by applying a current corresponding to the fluctuation of the EA optical modulator drive point to a drive current source 10.

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25/3, AB/8 (Item 2 from file: 347)
DIALOG(R) File 347: JAPIO
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06126592

TIME-SHARING BIDIRECTIONAL OPTICAL COMMUNICATION MODULE AND TRANSMITTING AND RECEIVING UNIT

PUB. NO.: 11-068129 [JP 11068129 A]
PUBLISHED: March 09, 1999 (19990309)
INVENTOR(s): ICHIHARA ATSUSHI
APPLICANT(s): ROHM CO LTD
APPL. NO.: 09-229392 [JP 97229392]
FILED: August 26, 1997 (19970826)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a time-sharing bidirectional optical communication module at low cost by using a light-receiving element common to a receiving unit and a monitor, and conventional receiving and transmitting ICs without modifications.

SOLUTION: A module 10 includes a **light-emitting element** 1 for generating a transmitting **light** signal, a collecting lens 4 for coupling the transmission **light** signal T of the **light-emitting element** 1 with a optical waveguide 5, a light-receiving element for receiving a receiving light signal R from the optical waveguide 5, and a monitoring light-receiving element for

monitoring the luminescent intensity of the light-emitting element 1. The light-receiving element and the monitoring element include a common light-receiving element 2. A transistor 7 and a first resistor R1 for changing a voltage are connected to the light-receiving element 2 at a position, to which a receiving IC 8 via a second resistor R2 and a transmitting IC via a third resistor are connected. Then, a time-sharing bidirectional light communication transmitting and receiving unit can be obtained.

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25/3,AB/9 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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05387796
DISPLAY APPARATUS

PUB. NO.: 09-002596 [JP 9002596 A]
PUBLISHED: January 07, 1997 (19970107)
INVENTOR(s): YOSHIDA TAKEOMI
APPLICANT(s): TOKICO LTD [000305] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 07-151921 [JP 95151921]
FILED: June 19, 1995 (19950619)

ABSTRACT

PURPOSE: To provide a display apparatus constituted so as to adjust the angle of an oil supply quantity display device and the quantity of emission in order to make the display of the quantity of oil supplied easy to see from a driver's seat of a vehicle receiving the supply of oil.

CONSTITUTION: In a suspension type oiling device, an oil supply nozzle 6 is allowed to fall from the delivery unit 4 of the high place 3 of an oil station 3 to supply oil. The quantity of the oil supplied to a vehicle 17 is displayed on the oil supply quantity display device 19a of the display apparatus 19 provided to the high place. A **light emitting element emitting light** in the stop direction of the vehicle 17, a photodetector detecting the light reflected from the front glass 17a of the vehicle 17 and a **luminous intensity sensor detecting** the brightness of the periphery are provided to the oil supply quantity display device 19a. A display device position program 18A revolving the display device 19a toward the front glass 17a of the vehicle 17 and a display emission quantity control program 18B adjusting the emission quantity of the display device 19a corresponding to the brightness of the periphery are inputted to a control device 18.

25/3,AB/10 (Item 4 from file: 347)
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04244031
PHOTO DETECTOR

PUB. NO.: 05-235731 [JP 5235731 A]
PUBLISHED: September 10, 1993 (19930910)
INVENTOR(s): NISHI TSUTOMU
APPLICANT(s): SANYO ELECTRIC CO LTD [000188] (A Japanese Company or

Corporation), JP (Japan)
APPL. NO.: 04-035278 [JP 9235278]
FILED: February 21, 1992 (19920221)
JOURNAL: Section: E, Section No. 1479, Vol. 17, No. 691, Pg. 86,
December 17, 1993 (19931217)

ABSTRACT

PURPOSE: To provide the photo **detector** easily varying a **luminous** quantity when it is required to **intensify** the **luminous** quantity of a **light emitting element**.

CONSTITUTION: When a **light emitting diode** 5 does not have a **luminous** quantity on request, a variable resistor 11 is adjusted to increase a gain of an amplifier 10 and to allow the detector to cope with load control, and even when the variable resistor 11 is adjusted up to a reference voltage $VCC(sub\ 2)/2$ of a comparator 14 and a desired output of the amplifier 10 is not obtained, a drive circuit supplying a current to the **light emitting diode** 5 is controlled by a detection signal obtained from the comparator 14 to easily increase the **luminous** quantity of the **light emitting diode** 5.

25/3,AB/11 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO
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03490233
ELECTROOPTICAL CONVERSION CONNECTOR

PUB. NO.: 03-153133 [JP 3153133 A]
PUBLISHED: July 01, 1991 (19910701)
INVENTOR(s): OKUBO HIROSHI
ISHII TAKUO
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)
FUJI FACOM CORP [470926] (A Japanese Company or Corporation),
JP (Japan)
APPL. NO.: 01-291185 [JP 89291185]
FILED: November 10, 1989 (19891110)
JOURNAL: Section: E, Section No. 1116, Vol. 15, No. 383, Pg. 86,
September 27, 1991 (19910927)

ABSTRACT

PURPOSE: To **detect luminous intensity** before communication is disabled by providing a **luminous intensity** revision section revising the **luminous intensity** of a **light emitting element** by an instruction and decreasing the **luminous intensity** more than the normal **luminous intensity**.

CONSTITUTION: When the deterioration in an optical fiber cable 3 is detected, an instruction is given to a **luminous intensity** revision section 4 and the **light emitting element** 1 is driven by a driving circuit 2 while the **luminous intensity** is decreased to a lower level than a prescribed level. When the optical fiber cable 3 is deteriorated and the **luminous intensity** is decreased by the **luminous intensity** revision section 4 to a proper level, since normal transmission is not implemented, the deterioration state of the cable 3 is detected.

25/3,AB/12 (Item 6 from file: 347)
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03325316

COORDINATE INSTRUCTION DEVICE AND POSITION DETECTOR

PUB. NO.: 02-300816 [JP 2300816 A]
PUBLISHED: December 13, 1990 (19901213)
INVENTOR(s): FUJIMOTO MAKOTO
APPLICANT(s): MATSUSHITA ELECTRIC IND. CO. LTD [000582] (A Japanese Company
or Corporation), JP (Japan)
APPL. NO.: 01-120804 [JP 89120804]
FILED: May 15, 1989 (19890515)
JOURNAL: Section: P, Section No. 1172, Vol. 15, No. 84, Pg. 58,
February 27, 1991 (19910227)

ABSTRACT

PURPOSE: To eliminate constraint to regulate usage only on a desk, etc., by the coordinate input of an instruction part by moving in all directions.

CONSTITUTION: A coordinate instruction can be performed by directing a coordinate instruction part 101 having **light emitting elements** 401-403 to a coordinate point on the display picture plane of a display part 103, and moving it in a direction of targeted coordinate. The motion of the coordinate instruction part is detected at the light receiving element 409 of a light receiving part 102 installed in the neighborhood of the display part as the change of **luminous intensity** from the **light emitting element**. At the **light** receiving part 102; the **angular** change of the coordinate instruction part 101 can be obtained from the **detected** change of the **luminous intensity**, and it is sent to the display part 103, and at the display part 103, a display coordinate value is updated setting the angular change as the coordinate change of the display part 103, then, it is transferred to a new display coordinate. The coordinate instruction is completed when a displayed coordinate reaches the targeted coordinate, then, the input of the targeted coordinate is completed. Thereby, it is possible to eliminate the constraint to regulate the usage only on a specific place such as the desk, etc.

25/3,AB/13 (Item 7 from file: 347)
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02987116

ENCODER

PUB. NO.: 01-284716 [JP 1284716 A]
PUBLISHED: November 16, 1989 (19891116)
INVENTOR(s): TSUKIJI MASAOKI
NISHIMURA TETSUJI
ISHIZUKA AKIRA
ISHII SATORU
APPLICANT(s): CANON INC [000100] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-113083 [JP 88113083]
FILED: May 10, 1988 (19880510)
JOURNAL: Section: P, Section No. 1001, Vol. 14, No. 61, Pg. 4,

February 05, 1990 (19900205)

ABSTRACT

PURPOSE: To prevent **laser luminous** flux from exiting from the case of the encoder by detecting whether or not coherent **luminous** flux for **measurement** and a scale are in prescribed position relation and controlling the oscillation of a **laser** and the cutoff of **laser** light with a detection signal.

CONSTITUTION: The **luminous** flux from the **laser** 1 is made incident on a diffraction grating 3 through a collimator lens 2. Diffracted light beams of positive and negative (m)th order which are diffracted by a diffraction grating 3 are passed through 1/4-wavelength plates 5(sub 1) and 5(sub 2), reflected by corner cube reflecting mirrors 4(sub 1) and 4(sub 2), and made incident again on the diffraction grating 3 to become diffracted light beams of positive and negative (m)th order, which are put one over the other and split into two pieces of **luminous** flux by a beam splitter 6 to strike on light receiving elements 8(sub 1) and 8(sub 2) through polarizing plates 7(sub 1) and 7(sub 2). A **light emitting element** 10, a condenser lens 11, and a light receiving element 12 are put in a case and when the light receiving element 12 does not light-receive **luminous** flux below certain **intensity**, a control means 13 stops the oscillation of the **laser** to prevent the **laser luminous** flux from exiting from the case 9 through a shutter mechanism, thereby eliminating adverse influence upon human bodies.

30/3,AB/1 (Item 1 from file: 347)
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04543973

ELECTROLUMINESCENT ELEMENT

PUB. NO.: 06-215873 [JP 6215873 A]
PUBLISHED: August 05, 1994 (19940805)
INVENTOR(s): HATTORI TAMOTSU
ISHIHARA HAJIME
KATAYAMA MASAYUKI
ITO NOBUE
APPLICANT(s): NIPPONDENSO CO LTD [000426] (A Japanese Company or
Corporation), JP (Japan)
RES DEV CORP OF JAPAN [330319] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 05-023732 [JP 9323732]
FILED: January 18, 1993 (19930118)
JOURNAL: Section: E, Section No. 1624, Vol. 18, No. 573, Pg. 78,
November 02, 1994 (19941102)

ABSTRACT

PURPOSE: To provide an **EL element** excellent in **luminance**
and **luminous** efficiency with good reproducibility.

CONSTITUTION: An **EL element** 10 is formed by successively
laminating, on a glass base, a **lower electrode** 2, a **lower**
insulating layer 3, a **light emitting layer** 4, an
upper **insulating layer** 3 and an **upper electrode** 6 in the
order. In the **light emitting layer** 4, VI/II ratio of a
base material is higher than 0.97 and lower than 1.0, and the halogen/rare
earth element ratio of a **luminescence** center material exceeds 2.5.
The stoichiometric ratio of the base material and the ratio of rare earth
element to halogen of the **luminescence** center material in the
light emitting layer are controlled in this way, whereby
many halogens can be present in the periphery of the **luminescence**
center element to induce the splitting of the crystal field around the
luminescence center element. Thus, the emission spectrum is split in
the **light emitting layer** to increase the integrated
intensity, whereby **luminance** and **luminous** efficiency can
be improved. Thus, an **EL element** excellent in **luminance**
and **luminous** efficiency can be provided with good reproducibility
regardless of a film forming device or **film** forming method related to
light emitting layer formation.

30/3,AB/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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04011378

MEMBRANE DEVICE

PUB. NO.: 05-003078 [JP 5003078 A]
PUBLISHED: January 08, 1993 (19930108)
INVENTOR(s): ANDO MASAHIKO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 03-178883 [JP 91178883]

FILED: June 25, 1991 (19910625)
JOURNAL: Section: E, Section No. 1368, Vol. 17, No. 257, Pg. 81, May
20, 1993 (19930520)

ABSTRACT

PURPOSE: To make the total integration easily by providing plural **electroluminescence(EL) elements**, and laminating the other side element to the transparent electrode side of one side element.

CONSTITUTION: To a transparent electrode 6 side of the first membrane **EL element**, the second membrane **EL element** is laminated, and the **luminous** wavelength of a **luminous** layer 4 is positioned within the wavelength scope of the exciting spectrum of a **luminous** layer 10. In this case, a voltage is applied between a **lower** side **electrode** 2 and the electrode 6, the **luminous** layer 4 is made in an electric field **luminous** condition, and the voltage is increased. Since all the layers between the **luminous** layers 4 and 10 show a good transparence to the **light emitted** from the **luminous layer** 4, the **light** generated from the **luminous layer** 4 is radiated to the **luminous layer** 10 as it is. As a result, the **luminous layer** 10 is made in an exciting **light luminous** condition, and its **luminous intensity** is increased following the increase of the **luminous intensity** of the **luminous layer** 4. Consequently, the exciting **light luminous intensity** of the second **EL element** can be controlled by the voltage applied between the electrodes 2 and 6, the structure is made simple, and the overall integration can be made easily.

30/3,AB/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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03456789

MANUFACTURE OF THIN-FILM **ELECTROLUMINESCENCE** ELEMENT

PUB. NO.: 03-119689 [JP 3119689 A]
PUBLISHED: May 22, 1991 (19910522)
INVENTOR(s): TAKEMURA KENZO
YOSHIDA TAKESHI
APPLICANT(s): HITACHI CHEM CO LTD [000445] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 01-256868 [JP 89256868]
FILED: September 30, 1989 (19890930)
JOURNAL: Section: E, Section No. 1101, Vol. 15, No. 323, Pg. 28,
August 16, 1991 (19910816)

ABSTRACT

PURPOSE: To improve **luminous intensity** and **luminescence** outside extracting efficiency by roughening the surface of a **light emitting layer** after forming the **light emitting layer**.

CONSTITUTION: A transparent **electrode** 2, a **lower** insulating **layer** 3, a **light emitting layer** 4, an upper insulating **layer** 5, and a back electrode 6 are formed in sequence on a transparent insulating substrate 1 such as a glass substrate to form an AC type thin-film **EL element**. An ITO film is formed on the transparent electrode 2 and an Al film is formed on the back electrode 6 by deposition respectively, and a single layer or multiple layers of Si(sub

2)N(sub 4), SiO(sub 2), and Ta(sub 2)O(sub 3) are formed on the lower and upper insulating layers 3 and 5 by sputtering. ZnS containing a small quantity of Mn is formed by deposition as a **luminous** center on the **light emitting layer 4**, and it is heat-treated at 500-600 deg.C in vacuum. After the **light emitting layer 4** is formed, the surface of the layer 4 is roughened by mechanical processing or chemical reaction processing. For mechanical processing, for example, the surface of the **light emitting layer 4** is roughened with a polishing agent such as alumina with the grain size about several μm , then it is cleaned with pure water, and it is dried at 300-400 deg.C in vacuum.

30/3,AB/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO
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03089594

THIN FILM **EL ELEMENT** AND MANUFACTURE THEREOF

PUB. NO.: 02-065094 [JP 2065094 A]
PUBLISHED: March 05, 1990 (19900305)
INVENTOR(s): YOSHIOKA TOSHIHIRO
NUNOMURA KEIJI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-215521 [JP 88215521]
FILED: August 29, 1988 (19880829)
JOURNAL: Section: E, Section No. 930, Vol. 14, No. 239, Pg. 107, May
21, 1990 (19900521)

ABSTRACT

PURPOSE: To obtain a thin film **El element** with high **luminous** efficiency while maintaining the color tone as a red **light emitting element** by using thin film phosphors activated with Eu on a base material made of a mixed crystal of CaS and CaSe for a **light emitting layer**.

CONSTITUTION: A transparent electrode 2 and the first insulator layer 3 made of Al(sub 2)O(sub 3) are formed on a glass base 1 by the vacuum deposition method or the like. A **light emitting layer 4** is formed by the electron beam heating deposition method with a pellet containing Eu in a mixed crystal of CaS and CaSe of an evaporation source so that the **light emitting layer 4** having a base material with the preset Se concentration is formed on this base. The second insulator layer 5 of Al(sub 2)O(sub 3) is formed on the **light emitting layer 4** without breaking the vacuum state, and an upper Al electrode 6 is finally formed on the second insulator layer 6. A **light emitting layer** material of a thin film **EL element** with good red **luminescence** and high intensity and efficiency can be obtained.

35/3,AB/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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07445068

ORGANIC **ELECTROLUMINESCENT ELEMENT** AND DISPLAY DEVICE

PUB. NO.: 2002-313579 [JP 2002313579 A]
PUBLISHED: October 25, 2002 (20021025)
INVENTOR(s): UEDA NAOYUKI
TAKADA KAZUNORI
SHIBANUMA TETSUAKI
ICHIMURA MARI
TAMURA SHINICHIRO
APPLICANT(s): SONY CORP
APPL. NO.: 2002-006851 [JP 20026851]
FILED: January 16, 2002 (20020116)
PRIORITY: 2001-029533 [JP 200129533], JP (Japan), February 06, 2001
(20010206)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an organic **electroluminescent element** providing blue light emission at high purity, and a display device capable of providing a full- color display with high color expressibility by using the element.

SOLUTION: In the organic **electroluminescent element** 3, in which at least a hole-transporting **layer** 503 and a **light emitting layer** 505 are stacked one above the other from the **anode** side and sandwiched between a **lower electrode** 4 serving as an **anode** and an **upper electrode** 6 serving as a **cathode**, the **light emitting layer** 505 is made from a spiro compound and the hole-transporting layer 503 is made from a triphenylamine tetramer. In the display device 1, the organic **electroluminescent elements** 3 are aligned as blue **light emitting elements** at a plurality of pixels.

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05206773

THIN FILM **EL ELEMENT**

PUB. NO.: 08-162273 [JP 8162273 A]
PUBLISHED: June 21, 1996 (19960621)
INVENTOR(s): OKADA KATSUHIRO
TERADA KOSUKE
MIKAMI AKIYOSHI
APPLICANT(s): SHARP CORP [000504] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 06-297051 [JP 94297051]
FILED: November 30, 1994 (19941130)

ABSTRACT

PURPOSE: To provide blue color **electroluminescence** with improved color purity and **luminous intensity** by forming an insulating layer between an EL **electroluminescent** layer consisting of an alkaline earth thiogallate containing Ce and an electrode and making the EL layer a multilayer structure by layering a plurality of layers.

CONSTITUTION: A **lower electrode** 2, which is a transparent electrode made of ITO, etc., is formed on one surface of a light transmissive substrate 1 of glass. On the **electrode**, a **lower insulating layer** 3 composed of a composite film consisting of a SiO(sub 2) film and a Si(sub 3)N(sub 4) film is formed. More on the layer, a ZnS film 4 is formed by a high frequency sputtering method. Further, a thiogallate-based **electroluminescent** layer 5 containing Sr(sub 2)Ga(sub 2)S(sub 5):Ce is formed by a high frequency sputtering method. Moreover on the resulting layer, an intermediate insulating layer 6 of Si(sub 3)N(sub 4) is formed by a high frequency sputtering method. Then, on the layer, a ZnS layer 4 and an **electroluminescent** layer 5 are formed. On the obtained layer, an upper insulating layer composed of a composite film 7 consisting of a Si(sub 3)N(sub 4) film and a SiO(sub 2) film is formed. Finally on the insulating layer, an **upper electrode** 8 is formed by Al evaporation. That is, the **EL element** is made to have a multilayer structure by layering a plurality of layers, for example, two by two of the ZnS layer 4 and the **electroluminescent** layer 5.

43/3,AB/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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04543973

ELECTROLUMINESCENT ELEMENT

PUB. NO.: 06-215873 [JP 6215873 A]
PUBLISHED: August 05, 1994 (19940805)
INVENTOR(s): HATTORI TAMOTSU
ISHIHARA HAJIME
KATAYAMA MASAYUKI
ITO NOBUE
APPLICANT(s): NIPPONDENSO CO LTD [000426] (A Japanese Company or Corporation), JP (Japan)
RES DEV CORP OF JAPAN [330319] (A Japanese Company or Corporation), JP (Japan)

Corporation), JP (Japan)
APPL. NO.: 05-023732 [JP 9323732]
FILED: January 18, 1993 (19930118)
JOURNAL: Section: E, Section No. 1624, Vol. 18, No. 573, Pg. 78,
November 02, 1994 (19941102)

ABSTRACT

PURPOSE: To provide an **EL element** excellent in **luminance**
and **luminous** efficiency with good reproducibility.

CONSTITUTION: An **EL element** 10 is formed by successively laminating, on a glass base, a **lower electrode** 2, a **lower** insulating layer 3, a light emitting layer 4, an upper insulating layer 3 and an **upper electrode** 6 in the order. In the light emitting layer 4, VI/II ratio of a base material is higher than 0.97 and lower than 1.0, and the halogen/rare earth element ratio of a **luminescence** center material exceeds 2.5. The stoichiometric ratio of the base material and the ratio of rare earth element to halogen of the **luminescence** center material in the light emitting layer are controlled in this way, whereby many halogens can be present in the periphery of the **luminescence** center element to induce the splitting of the crystal field around the **luminescence** center element. Thus, the emission spectrum is split in the light emitting layer to increase the integrated **intensity**, whereby **luminance** and **luminous** efficiency can be improved. Thus, an **EL element** excellent in **luminance** and **luminous** efficiency can be provided with good reproducibility regardless of a film forming device or film forming method related to light emitting layer formation.

43/3,AB/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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04011378
MEMBRANE DEVICE

PUB. NO.: 05-003078 [JP 5003078 A]
PUBLISHED: January 08, 1993 (19930108)
INVENTOR(s): ANDO MASAHIKO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 03-178883 [JP 91178883]
FILED: June 25, 1991 (19910625)
JOURNAL: Section: E, Section No. 1368, Vol. 17, No. 257, Pg. 81, May
20, 1993 (19930520)

ABSTRACT

PURPOSE: To make the total integration easily by providing plural **electroluminescence(EL) elements**, and laminating the other side element to the transparent electrode side of one side element.

CONSTITUTION: To a transparent electrode 6 side of the first membrane **EL element**, the second membrane **EL element** is laminated, and the **luminous** wavelength of a **luminous** layer 4 is positioned within the wavelength scope of the exciting spectrum of a **luminous** layer 10. In this case, a voltage is applied between a **lower side electrode** 2 and the electrode 6, the **luminous** layer 4 is made in an electric field **luminous** condition, and the voltage is increased. Since all the layers between the **luminous**

layers 4 and 10 show a good transparence to the light emitted from the **luminous** layer 4, the light generated from the **luminous** layer 4 is radiated to the **luminous** layer 10 as it is. As a result, the **luminous** layer 10 is made in an exciting light **luminous** condition, and its **luminous intensity** is increased following the increase of the **luminous intensity** of the **luminous** layer 4. Consequently, the exciting light **luminous intensity** of the second **EL element** can be controlled by the voltage applied between the electrodes 2 and 6, the structure is made simple, and the overall integration can be made easily.

43/3,AB/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO
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03456789
MANUFACTURE OF THIN-FILM **ELECTROLUMINESCENCE** ELEMENT

PUB. NO.: 03-119689 [JP 3119689 A]
PUBLISHED: May 22, 1991 (19910522)
INVENTOR(s): TAKEMURA KENZO
YOSHIDA TAKESHI
APPLICANT(s): HITACHI CHEM CO LTD [000445] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-256868 [JP 89256868]
FILED: September 30, 1989 (19890930)
JOURNAL: Section: E, Section No. 1101, Vol. 15, No. 323, Pg. 28,
August 16, 1991 (19910816)

ABSTRACT

PURPOSE: To improve **luminous intensity** and **luminescence** outside extracting efficiency by roughening the surface of a light emitting layer after forming the light emitting layer.

CONSTITUTION: A transparent **electrode** 2, a lower insulating layer 3, a light emitting layer 4, an upper insulating layer 5, and a back electrode 6 are formed in sequence on a transparent insulating substrate 1 such as a glass substrate to form an AC type thin-film **EL element**. An ITO film is formed on the transparent electrode 2 and an Al film is formed on the back electrode 6 by deposition respectively, and a single layer or multiple layers of Si(sub 2)N(sub 4), SiO(sub 2), and Ta(sub 2)O(sub 3) are formed on the lower and upper insulating layers 3 and 5 by sputtering. ZnS containing a small quantity of Mn is formed by deposition as a **luminous** center on the light emitting layer 4, and it is heat-treated at 500-600 deg.C in vacuum. After the light emitting layer 4 is formed, the surface of the layer 4 is roughened by mechanical processing or chemical reaction processing. For mechanical processing, for example, the surface of the light emitting layer 4 is roughened with a polishing agent such as alumina with the grain size about several μm , then it is cleaned with pure water, and it is dried at 300-400 deg.C in vacuum.

43/3,AB/5 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO
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03452586
ORGANIC **ELECTROLUMINESCENT** ELEMENT

PUB. NO.: 03-115486 [JP 3115486 A]
PUBLISHED: May 16, 1991 (19910516)
INVENTOR(s): EKUSA TAKASHI
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 01-254960 [JP 89254960]
FILED: September 29, 1989 (19890929)
JOURNAL: Section: C, Section No. 857, Vol. 15, No. 313, Pg. 38, August
09, 1991 (19910809)

ABSTRACT

PURPOSE: To obtain a high yield of an organic **electroluminescent element** with good characteristics, having an organic thin film layer that withstands a process of forming an **upper electrode** by using a specified polymer as a **luminescent** organic dye.

CONSTITUTION: An organic **electroluminescent element** having an organic thin film prepared by laminating a hole transfer layer and an electron transfer layer, which are made of an organic dye and at least one of which is **luminescent**, between two electrodes at least one of which is transparent, wherein a polymer having at least two organic dyes of a band gap of at least 3eV combined through a nonconjugated bond (e.g. a carbon-carbon single bond, a hydrocarbon residue, an ester linkage, a carbonyl residue, an amide linkage or an ether linkage) is used as a **luminescent** organic dye. For example, a **luminescent** bipyrenyl of formula I is used for the hole transfer layer, and dinitrobifluorenonyl of formula II for the electron transfer layer. This technique gives a high yield of an organic **electroluminescent element** with good characteristics without suffering a damage to the organic thin film layer when an **upper electrode** is formed and without causing a reduction in **luminous intensity** and short circuit.

43/3,AB/6 (Item 6 from file: 347)
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03089594
THIN FILM **EL ELEMENT** AND MANUFACTURE THEREOF

PUB. NO.: 02-065094 [JP 2065094 A]
PUBLISHED: March 05, 1990 (19900305)
INVENTOR(s): YOSHIOKA TOSHIHIRO
NUNOMURA KEIJI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-215521 [JP 88215521]
FILED: August 29, 1988 (19880829)
JOURNAL: Section: E, Section No. 980, Vol. 14, No. 239, Pg. 107, May
21, 1990 (19900521)

ABSTRACT

PURPOSE: To obtain a thin film **El element** with high **luminous** efficiency while maintaining the color tone as a red light emitting element by using thin film phosphors activated with Eu on a base material made of a mixed crystal of CaS and CaSe for a light emitting layer.

CONSTITUTION: A transparent electrode 2 and the first insulator layer 3 made of Al(sub 2)O(sub 3) are formed on a glass base 1 by the vacuum

deposition method or the like. A light emitting layer 4 is formed by the electron beam heating deposition method with a pellet containing Eu in a mixed crystal of CaS and CaSe of an evaporation source so that the light emitting layer 4 having a base material with the preset Se concentration is formed on this base. The second insulator layer 5 of Al(sub 2)O(sub 3) is formed on the light emitting layer 4 without breaking the vacuum state, and an **upper Al electrode** 6 is finally formed on the second insulator layer 6. A light emitting layer material of a thin film **EL element** with good red **luminescence** and high **intensity** and efficiency can be obtained.

43/3,AB/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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02922794
HIGH-INTENSITY **EL ELEMENT**

PUB. NO.: 01-220394 [JP 1220394 A]
PUBLISHED: September 04, 1989 (19890904)
INVENTOR(s): TAGUCHI KAZUO
KIZAWA KENICHI
TAMURA KATSU
NAKAYAMA TAKAHIRO
ABE YOSHIO
SATO AKIRA
HASHIMOTO KENICHI
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-044628 [JP 8844628].....
FILED: February 29, 1988 (19880229)
JOURNAL: Section: E, Section No. 852, Vol. 13, No. 534, Pg. 140,
November 29, 1989 (19891129)

ABSTRACT

PURPOSE: To efficiently extract the **illuminated** light and improve the **intensity** of a **luminous** layer by providing a **lower electrode**, an insulating layer, a **luminous** layer and an **upper electrode** in sequence on a substrate and providing a mirror reflecting the light on one face of the **luminous** layer.

CONSTITUTION: A **lower electrode** 2 is formed in a stripe shape on a glass substrate 1. A Ta(sub 2)O(sub 3) film with the thickness of 1 μ m is formed as the first insulating layer 3 on the electrode 2, then the surface is formed in a wave shape. The Ta(sub 2)O(sub 3) film is formed by the sputtering method, the wave shape is formed by the chemical etching method. A mirror 7 is formed on the insulating layer 3. A metal aluminum film with the thickness of 0.005 μ m, for example, is used for the mirror 7, the mirror 7 suppresses the **luster** at the cone-shaped bottom portion and prevents the reflection of the external light. A **luminous** layer 4 is formed on the mirror 7, the second insulating layer 2 is formed on the **luminous** layer 4, a back electrode 6 is formed on it. The **illuminated** light is efficiently extracted, thereby the **intensity** of the **luminous** layer can be improved.

43/3,AB/8 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO
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02812094

ELECTROLUMINESCENT ELEMENT

PUB. NO.: 01-109694 [JP 1109694 A]
PUBLISHED: April 26, 1989 (19890426)
INVENTOR(s): TAKABAYASHI MEIJI
IIZUKA KIYOSHI
TERADA JUNJI
HAYAKAWA SAI
HASHIMOTO SHIGERU
TANIGUCHI YASUSHI
KAMIYA OSAMU
APPLICANT(s): CANON INC [000100] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 62-266255 [JP 87266255]
FILED: October 23, 1987 (19871023)
JOURNAL: Section: E, Section No. 800, Vol. 13, No. 350, Pg. 59, August
07, 1989 (19890807)

ABSTRACT

PURPOSE: To effectively enclose **luminescence** between clad layers and increase the **luminescence intensity** of an **EL element** by pinching a **luminous** layer between two insulating clad layers with the refraction factor lower than that of the **luminous** layer.

CONSTITUTION: A **lower electrode** 2 is provided on a glass substrate 1, a material with the refraction factor of 2 or above such as Mn-doped ZnS(refraction factor 2.4) is used for a **luminous** layer 4, which is pinched by clad layers 3 and 4 with the refraction factor of 2 or below such as CaF(sub 2) (refraction factor 1.38), for example. When the difference of the refraction factor between the **luminous** layer 4 and the clad layers is selected to 1.0 or above, it is effective. An **upper electrode** 6 is provided, and the AC voltage is applied across the electrodes 2 and 6. The thickness of the clad layers 3 and 5 is set to about 0.5-1 μ m, the clad layers are formed by deposition or the like, and a light emitting surface 8 is formed by etching or the like. **Luminescence** is effectively enclosed by the **luminous** layer 4 according to this constitution, and **luminescence** with high **intensity** is obtained from the light emitting surface 8.

50/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015755638

WPI Acc No: 2003-817840/200377

XRAM Acc No: C03-228735

XRPX Acc No: N03-654479

Novel hydrocarbon compound for organic **electroluminescent element**, has anthracene ring containing specific group as substituent, and directly bonded fluorine ring...

Patent Assignee: MITSUI CHEM INC (MITA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2003128651	A	20030508	JP 2001317783	A	20011016	200377 B

Priority Applications (No Type Date): JP 2001317783 A 20011016

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2003128651	A		99	C07D-209/86	

Abstract (Basic): JP 2003128651 A

Abstract (Basic):

NOVELTY - A hydrocarbon compound having an anthracene ring containing at least one group of preset formula as a substituent, and a directly bonded fluorine ring, is new.

DETAILED DESCRIPTION - A hydrocarbon compound having an anthracene ring containing at least one group of formula (I) as a substituent, and a directly bonded fluorine ring, is new. FORMULA (I), PAGE 2

Ar1, Ar2=(un)substituted arylene group; and
Z=a connection group.

INDEPENDENT CLAIMS are included for the following:

- (1) organic **electroluminescent** electrode material; and
- (2) organic **electroluminescent element** containing at least one layer containing the organic **electroluminescent** electrode material between a pair of electrodes.

USE - For organic **electroluminescent element** (claimed).

ADVANTAGE - The organic **electroluminescent element** obtained using the hydrocarbon compound has excellent **luminescence** with improved **intensity**.

DESCRIPTION OF DRAWING(S) - The figure shows an outline structural drawing of an organic **electroluminescent element**.

positive hole transportation layer (3)

light emitting layer (4)

electron transportation layer (5)

pp; 99 DwgNo 1/8

50/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015484068

WPI Acc No: 2003-546215/200352

XRAM Acc No: C03-148489

XRPX Acc No: N03-433620

Organic **electroluminescent element** for high intensity **light emission**, has **light emitting layer**

comprising host agent consisting of conductive polymer, and dope agent which radiates phosphor.

Patent Assignee: HONDA MOTOR CO LTD (HOND)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2003077673	A	20030314	JP 2001297338	A	20010927	200352 B

Priority Applications (No Type Date): JP 2001185486 A 20010619

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2003077673	A	18	H05B-033/14

Abstract (Basic): JP 2003077673 A

Abstract (Basic):

NOVELTY - The organic **electroluminescent element** has a hole carrying **layer** (20), a **light emitting layer** (40) and an electron carrying layer (60), formed sequentially between an **anode layer** (10) and a **cathode layer** (70). The **light emitting layer** has a dope agent (41) which radiates phosphor, and a host agent (42) comprising conductive polymer.

USE - As organic **electroluminescent element** for light emission.

ADVANTAGE - Since the ionization potential of conductive polymer in host agent is comparatively small, the organic **electroluminescent element** has high **luminous** efficiency and high **intensity** for light emission. The solvent for film-forming with the hole carrying layer and electron carrying layer is chosen easily.

DESCRIPTION OF DRAWING(S) - The figure shows the structure of organic **electroluminescent element**.

anode layer (10)
hole carrying layer (20)
light emitting layer (40)
dope agent (41)
host agent (42)
electron carrying layer (60)
cathode layer (70)
pp; 18 DwgNo 1/5

50/3,AB/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015053565

WPI Acc No: 2003-114081/200311

XRAM Acc No: C03-029441

XRPX Acc No: N03-090780

Organic **electroluminescent element** for full color display, contains light emission layer containing fluorescent and phosphorescent compounds

Patent Assignee: KONICA CORP (KONS); KINOSHITA M (KINO-I); KITA H (KITA-I); OSHIYAMA T (OSHI-I); YAMADA T (YAMA-I)

Inventor: KINOSHITA M; KITA H; OSHIYAMA T; YAMADA T

Number of Countries: 028 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1267428	A2	20021218	EP 2002254090	A	20020612	200311 B
JP 2003064355	A	20030305	JP 2002171356	A	20020612	200326

US 20030091860 A1 20030515 US 2002167120 A 20020610 200335

Priority Applications (No Type Date): JP 2001181543 A 20010615

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 1267428 A2 E 57 H01L-051/20

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT

LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003064355 A 45 C09K-011/06

US 20030091860 A1 H05B-033/14

Abstract (Basic): EP 1267428 A2

Abstract (Basic):

NOVELTY - An organic **electroluminescent element** has a light emission layer with fluorescent and phosphorescent compounds. The fluorescent compound has a nitrogen atom number to carbon atom number ratio of 0-0.05. The maximum emission wavelength of **light emitted** according to **electroluminescence** of the **element** is longer than the maximum fluorescence wavelength of the fluorescent compound.

USE - For full color display (claimed).

ADVANTAGE - The invention **emits light** with high emission **luminance** at reduced **power** consumption.

pp; 57 DwgNo 0/1

50/3,AB/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013417559

WPI Acc No: 2000-589497/200056

XRAM Acc No: C00-176116

XRPX Acc No: N00-436283

Organic **electroluminescent element** for display devices, has multi-layered organic thin film comprising multi-colored **luminescent** layer having color development area which contains aromatic tertiary amine compound

Patent Assignee: TOYO INK MFG CO LTD (TOXW)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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JP 2000150161	A	20000530	JP 98324628	A	19981116	200056 B
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Priority Applications (No Type Date): JP 98324628 A 19981116

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 2000150161 A 15 H05B-033/14

Abstract (Basic): JP 2000150161 A

Abstract (Basic):

NOVELTY - The organic **electroluminescent element** has a multi-layered organic thin film (3) comprising multi-colored **luminescent** layer, formed between a pair of electrodes (2,4). The multi-colored **luminescent** layer has several color development areas, of which each area contains aromatic tertiary amine compound.

USE - For display devices.

ADVANTAGE - The **electroluminescent element** has high **intensity**, **luminous** efficiency and durability.

DESCRIPTION OF DRAWING(S) - The figure shows model of multi-colored

light emitting organic electroluminescent element.

Glass substrate (1)
Anode (2)
Organic thin film (3)
Cathode (4)
pp; 15 DwgNo 1/3

50/3,AB/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011519024

WPI Acc No: 1997-495510/199746

XRAM Acc No: C97-157683

XRPX Acc No: N97-412674

Organic **EL element** - has **cathode** provided with oxygen whose density is 1 atomic per-cent or less along with alkali metal and alkaline earth metal

Patent Assignee: IDEMITSU KOSAN CO LTD (IDEK)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 9232079	A	19970905	JP 9636236	A	19960223	199746 B

Priority Applications (No Type Date): JP 9636236 A 19960223

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 9232079	A	16	H05B-033/26	

Abstract (Basic): JP 9232079 A

The **EL element** has an **anode** and **cathode**. An organic substance **layer** including a **light emitting layer** containing organic **luminescent** material configures **anode**. A structure with sequentially layered alkali metal and alkaline earth metal having work function less than 2.9eV represents the **cathode**. The composition rate of metal alloy is 0.5-5 at%.

The work function of the metal alloy is more than 3eV. The thickness of the area containing a metal alloy lies between 5- 50nm. The density of oxygen added to the **cathode** layer is made 1 at% or less.

ADVANTAGE - Excels in homogeneity **luminosity**. Improves electric **power**. Prolongs life time.
Dwg.0/0

50/3,AB/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008458251

WPI Acc No: 1990-345251/199046

XRAM Acc No: C90-149804

XRPX Acc No: N90-263910

Electroluminescent element - has **luminescent** layer composed of organic thin film layer between two electrodes

Patent Assignee: RICOH KK (RICO)
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2250292	A	19901008	JP 8972767	A	19890323	199046 B
US 5085947	A	19920204	US 89459326	A	19891229	199208
JP 2879080	B2	19990405	JP 8972767	A	19890323	199919

Priority Applications (No Type Date): JP 8972767 A 19890323 .

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2250292	A		4		
US 5085947	A		6		
JP 2879080	B2		4	H05B-033/14	Previous Publ. patent JP 2250292

Abstract (Basic): JP 2250292 A

Electroluminescent element has a **luminescent** layer composed organic thin film layer, between two electrodes. The **luminescent** layer is a thin film having stacked-layered structure of organic cpd. having hole transporting function and **luminescent** function, and the organic cpd. having the electron transporting function, or the thin film of the mixt. of the cpds.

The **electroluminescent element** is composed of a base such as glass base or synthetic resin base, an **anode** composed of evapn. film of metal such as Pt, Au and Pd, sputter film, an oxide thin film of tin or indium-tin, or organic electrically conductive thin film, which is transparent at a wavelength area of more than 400 nm, a **luminescent** layer of the stacked-layered structure.

USE/ADVANTAGE - The **electroluminescent element** of high brightness and high durability, can be obtd. The **luminescent** property can be kept for long period. (4pp Dwg.No.1/1)

Abstract (Equivalent): US 5085947 A

New **electroluminescent** device comprises a positive electrode an a **luminescent** layer in direct contact with it comprising 1st organic having positive hole transport and **luminescent** properties of triphenylamine cpds. of formula (I) stilbene derivs. of formula (II) or pyrazoline derivs. of formula (III) and a 2nd organic cpd. having electron transporting property viz. oxindole deriv. of formula (IV) converting electric energy to photo-energy and a negative electrode in direct contact with this **luminescent** layer. The **luminescent** layer is 200-3000A thick with wt. ratio of 1st:2nd organic cpds. 10/90-90/10. The positive electrode is of Au, Pt, Pd, SnO, In/SnO or an organoelectroconductor, and is **transparent** to 400+ nm light . The negative electrode is of Mg, Al, Ag or In. Or 1st organic cpd. and the 2nd organic cpd. may be in separate layers in contact, with the 1st layer of 100-2000A thick and the 2nd 100-1500 A. Prodn. is e.g. by vacuum or sputtering deposition of the successive layers in turn on a glass or synthetic resin substrate **layer**. USE - **Light emitting devices** of large surface area with high **luminous intensity** using 100 D.C. field.

(6pp

50/3,AB/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007662265

WPI Acc No: 1988-296197/198842

XRAM Acc No: C91-012655

XRPX Acc No: N91-022793

Thin film **electroluminescent element** - comprising **luminescent** film and transparent electrode on substrate

Patent Assignee: NIPPON JIDOSHA BUHIN SOGO (NIJI); NIPPON SOKEN KK (NSOK

)
Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 63216290	A	19880908				198842 B
US 4983469	A	19910108	US 89312293	A	19890217	199105

Priority Applications (No Type Date): JP 8748027 A 19870303; JP 86268348 A 19861111

Patent Details:

Patent No	Kind	Lang	Pg	Main IPC	Filing Notes
JP 63216290	A		3		

Abstract (Basic): JP 63216290 A

A thin film **electroluminescent element** comprises: 1) a substrate; 2) two electrode films, one being a transparent film formed on a first surface of the substrate, and made of a transparent material; and 3) a **luminescent** film formed between the two electrode film for **emitting white light** through the **transparent** electrode film upon the application of an electric field between the two electrode films; where the **luminescent** film includes three contiguous layers, one formed of a basic material having no **luminescent** centre which is interposed between the other two **luminescent** layers formed of basic material and having different **luminescent** centres.

USE/ADVANTAGE - The invention is used to mfr. thin display panels to replace **cathode** ray tubes, and as back **illumination** to a liquid crystal display. The **film emits white light** of excellent tone, including red, green and blue light as the primary colours with sufficiently large **luminous intensity**. (First major country equivalent to J63216290-A) (3pp dwg.No.1/9)

54/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015173664

WPI Acc No: 2003-234192/200323

XRPX Acc No: N03-186428

Organic **electroluminescent element** for copier, includes hole prevention layer containing carbazolyl group and phenylene group compounds

Patent Assignee: MITSUBISHI CHEM CORP (MITU)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2003031371	A	20030131	JP 2001216944	A	20010717	200323 B

Priority Applications (No Type Date): JP 2001216944 A 20010717

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2003031371	A	23	H05B-033/22	

Abstract (Basic): JP 2003031371 A

Abstract (Basic):

NOVELTY - A hole prevention layer (6) formed on the upper surface of a **light-emitting layer** (5), contains carbazolyl group and phenylene group compounds.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for blue **light-emitting element**.

USE - For copier, liquid crystal display, measuring instrument, flat-panel display, office automation apparatus, flat television, vehicle-mounted display device, mobile telephone, display board, marker lamp, etc.

ADVANTAGE - Ensures drive stability of **electroluminescent element** and increases **luminous intensity**.

DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the organic **electroluminescent element**. (Drawing includes non-English language text).

light-emitting layer (5)
hole prevention layer (6)
pp; 23 DwgNo 1/3

54/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014996544

WPI Acc No: 2004-184946/200418

XRPX Acc No: N04-146934

Organic **electroluminescent element** for display device, has phosphorescence **light emitting layer** consisting of phosphorescence **luminescent** material provided between emission band and electronic transportation belt

Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2004031211	A	20040129	JP 2002187938	A	20020627	200418 B

Priority Applications (No Type Date): JP 2002187938 A 20020627

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 2004031211 A 9 H05B-033/14

Abstract (Basic): JP 2004031211 A

Abstract (Basic):

NOVELTY - Emission band (4) containing fluorescent **luminescent** material is provided between pair of electrodes (2,6). Electronic transportation belt (5) is provided below electrode (6). Phosphorescence **light emitting layer** (7) which consists of phosphorescence **luminescent** material, is provided between emission band and electronic transportation belt.

USE - For use in display devices.

ADVANTAGE - Since emission band is touched with layer consisting of phosphorescence **luminescent** material, outstanding **electroluminescent element** with small **power** consumption and high **luminous** efficiency is obtained.

DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the organic **luminescent** element. (Drawing includes non-English language text).

substrate (1)
electrodes (2,6)
emission band (4)
electronic transportation belt (5)
phosphorescence **light emitting layer** (7)
pp; 9 DwgNo 1/5

54/3,AB/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010992701

WPI Acc No: 1996-489650/199649

XRFX Acc No: N96-412588

Electroluminescence element driving circuit for wristwatch, LCD appts
- has driving pulse generation part which generates driving pulse with duty cycle as specified by control part when switch is in ON state thereby making first transistor to conduct

Patent Assignee: CASIO COMPUTER CO LTD (CASK)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 8248910	A	19960927	JP 9551524	A	19950310	199649 B

Priority Applications (No Type Date): JP 9551524 A 19950310

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 8248910 A 6 G09G-003/12

Abstract (Basic): JP 8248910 A

The driving circuit has a switch (3). When the switch is switched ON, a driving pulse generation part (4) generates a driving pulse to the **base** of a second transistor (TR2) with the duty cycle as specified by a control part (5). When the driving pulse is in high level, a first transistor (TR1) conducts and produces oscillatory current and a high voltage is supplied to **EL element** (2).

When the driving pulse is in low level, current is supplied to a first winding (L1) through a capacitor (L2). When the capacitor starts **discharging**, the first transistor stops conducting. When the

driving pulse is in high level, the first transistor begins to conduct again.

ADVANTAGE - Enables **EL element** to emit light by proper luminance. Reduces electric power consumption.

Dwg.1/5

54/3,AB/4 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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07155276

IMAGE DISPLAY DEVICE

PUB. NO.: 2002-023656 [JP 2002023656 A]

PUBLISHED: January 23, 2002 (20020123)

INVENTOR(s): NAITO KEIJIRO

APPLICANT(s): SEIKO EPSON CORP

APPL. NO.: 2000-201272 [JP 2000201272]

FILED: July 03, 2000 (20000703)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an image display device which can be made thin and small in size with low power consumption and a longer life.

SOLUTION: A light source 22 composed of a red light emitting element 22R, green light emitting element 22G and blue light emitting element 22B consisting of organic EL elements of the respective colors is disposed on a counter substrate 23. Since a conventional back light is made unnecessary as well as the measures for the use of a back light are not required, the inner structure of the liquid crystal display is simplified, thereby makes the obtained liquid crystal display thin and small in size. Since the light emitting elements 22R, 22G, 22B consisting of organic EL elements have features of low electric power and high luminance, lower power consumption and a long life of the liquid crystal display can be realized.

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54/3,AB/5 (Item 2 from file: 347)

DIALOG(R)File 347:JAPIO

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06450819

ORGANIC ELECTROLUMINESCENT ELEMENT AND MANUFACTURE THEREOF

PUB. NO.: 2000-036391 [JP.2000036391. A]

PUBLISHED: February 02, 2000 (20000202)

INVENTOR(s): FUJIMORI SHIGEO

HIMESHIMA YOSHIO

KOHAMA TORU

APPLICANT(s): TORAY IND INC

APPL. NO.: 10-201659 [JP 98201659]

FILED: July 16, 1998 (19980716)

ABSTRACT

PROBLEM TO BE SOLVED: To improve characteristics and durability while

lowering the resistance in a second electrode so as to reduce unevenness of **luminance**, heating, **power** consumption and a load to a drive circuit by electrically connecting a guide electrode to the second electrode in a predetermined form.

SOLUTION: A first electrode 2 made of excellent conductive transparent material such as tin oxide is formed on a **substrate** 1a, and plural insulating projections 3 having a desirable shape formed with a conductive part on the **surface** thereof are provided by patterning on the **substrate** 1a except for the part provided with the first electrode 2, and thereafter, a thin **film layer** 10, including a **light emitting layer** is formed. The projections 3 are formed higher than the thickness of the thin film layer 10. A second electrode 8 made of platinum and aluminum is formed into a stripe by make deposition method so as to cover the **surface** of the projections 3, and the second electrode 8 is electrically connected to a guide electrode 4 formed in a **substrate** 1b so as to follow the shape of the **light emitting element** and having 2 K Ω /m or less of resistance value through the projections 3. The **substrates** 1a, 1b are adhered to each other so as to seal the **light emitting element**, and deterioration of the **light emitting** characteristic due to the moisture and oxygen is thereby prevented.

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54/3,AB/6 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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06272576
TRANSPARENT ELECTRICAL CONDUCTIVE FILM FOR **ELECTROLUMINESCENCE** ELEMENT

PUB. NO.: 11-214164 [JP 11214164 A]
PUBLISHED: August 06, 1999 (19990806)
INVENTOR(s): YAMADA HIROYUKI
TATENO KATSUTAKA
APPLICANT(s): OJI PAPER CO LTD
APPL. NO.: 10-015206 [JP 9815206]
FILED: January 28, 1998 (19980128)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a transparent electrical conductive film for an **electroluminescence** element, which keeps its performance stably for a long time even when it is lit continuously using an inverter in a high humidity atmosphere as a packageless **electroluminescence** element, has performances such as high **luminance** and low **power** consumption, and adheres closely on a **light emitting** body layer satisfactorily.

SOLUTION: This transparent electrical conductive film for a **electroluminescence** element is formed by accumulating a transparent polymer film, a transparent electrical conductive layer which is made of indium oxide (In₂O₃) - tin oxide (SnO₂) sintered body containing 3 to 15 wt.% of tin oxide (SnO₂) and has a thickness of 100 to 500 \AA , and a high dielectric constant resin layer which is made of cyanoalkyl retermed fluororesin having dielectric constant ≥ 10 and has a thickness (x) of 3 to 10 μm sequentially on at least one face of the transparent polymer film. When this transparent conductive film for EL is used as, in particular, an electrode for EL, close adhesion on a **light**

emitting body layer can be increased owing to the high dielectric constant resin layer on the transparent conductive layer. Moreover, it is possible to obtain an EL which does not cause a non-light lit part on the surface of a light emitting body of an EL element and has by far excellent durability, even if the EL is continuously lit in a high humidity atmosphere.

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54/3,AB/7 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO

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04307471

LINE LUMINESCENCE DISPERSION TYPE EL ELEMENT AND ITS
MANUFACTURE

PUB. NO.: 05-299171 [JP 5299171 A]
PUBLISHED: November 12, 1993 (19931112)
INVENTOR(s): WAKABAYASHI SHIGEKI
APPLICANT(s): HOKURIKU ELECTRIC IND CO LTD [327816] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-125706 [JP 92125706]
FILED: April 17, 1992 (19920417)
JOURNAL: Section: E, Section No. 1508, Vol. 18, No. 91, Pg. 65,
February 15, 1994 (19940215)

ABSTRACT

PURPOSE: To provide a line luminescence dispersion type EL element and its manufacture capable of obtaining a high-intensity, high-precision luminescence line with a simple structure and easy to manufacture.

CONSTITUTION: A line luminescence dispersion type EL element is provided with a red luminescence layer 18 constituted of an opaque electrode 12 formed on one surface of a transparent resin film 10, a transparent electrode 14 formed on the other face, an EL luminous body 16 provided on one face of the resin film 10 and emitting nearly red light, a green luminescence layer 22 formed with a green light dispersion type EL luminous body 20 on one face of another resin film 10 likewise formed with electrodes, and a blue luminescence layer 26 formed with a blue light dispersion type EL luminous body 24 on one face of another resin film 10 likewise formed with electrodes. Many luminescence layers 18, 22, 26 of three primary colors are laminated in sequence, and an EL luminescence panel illuminated into a line shape from the laminated end face is formed.

54/3,AB/8 (Item 5 from file: 347)

DIALOG(R)File 347:JAPIO

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03596675

DIAMOND LIGHT-EMITTING ELEMENT AND EL LIGHT-
EMITTING ELEMENT

PUB. NO.: 03-259575 [JP 3259575 A]
PUBLISHED: November 19, 1991 (19911119)

INVENTOR(s): KATSUMATA SATOSHI
APPLICANT(s): IDEMITSU PETROCHEM CO LTD [358507] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-056572 [JP 9056572]
FILED: March 09, 1990 (19900309)
JOURNAL: Section: E, Section No. 1167, Vol. 16, No. 64, Pg. 99, February 18, 1992 (19920218)

ABSTRACT

PURPOSE: To make it possible to emit a white color and an arbitrary color by a single element by a method wherein the element is formed into a constitution having a diamond layer, a boron-containing diamond layer and a nitrogen-containing diamond layer.

CONSTITUTION: A **substrate** 1 is formed of an opaque material or a transparent material. A diamond layer 2 is formed on the **substrate** 1 and is formed as so to **emit** a blue **light** by not doping an impurity. A boron-containing diamond layer 3 is laminated on the layer 2 and this layer 3 is formed so as to **emit** a green **light** by doping B as an impurity. A nitrogen-containing diamond layer 4 is formed on this layer 3 and this layer 4 is formed so as to **emit** a red **light** by doping N as an impurity. The order of lamination of the individual diamond layers is not specially limited, but it is desirable that in case there is an **intensity** between the **luminous intensities** of the individual layers, a layer having a weak **luminous intensity** becomes an upper layer.

54/3,AB/9 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO
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03573293

THIN FILM EL ELEMENT

PUB. NO.: 03-236193 [JP 3236193 A]
PUBLISHED: October 22, 1991 (19911022)
INVENTOR(s): FUJIKURA MAKOTO
APPLICANT(s): HITACHI CHEM CO LTD [000445] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-030215 [JP 9030215]
FILED: February 09, 1990 (19900209)
JOURNAL: Section: E, Section No. 1155, Vol. 16, No. 18, Pg. 133, January 17, 1992 (19920117)

ABSTRACT

PURPOSE: To improve the reproducibility of the hysteresis characteristic and adhesion and reduce the aging change of a hysteresis by setting the thickness of a photoconductive layer to a specific value or above, and forming an insulating layer with a specific compound in a thin film **EL element** laminated with required layers.

CONSTITUTION: The first conducting film 2, the first insulating layer 3, a **light emitting layer** 4, the second insulating layer 5, the first high-conductivity layer 6, a photoconductive layer 7, the second high-conductivity layer 8, and the second conducting film 9 are laminated on a **substrate** 1 to form a thin film **EL element**, the thickness of the layer 7 is set to 0.4 μ m or above, and the layer 5 is made of a silicon nitride compound. The thin film **EL element** having good reproducibility of the hysteresis

characteristic between the applied voltage and the **luminous intensity** and high adhesion between the layer 5 and the layer 6 containing amorphous silicon hydroxide and a small aging change of a hysteresis is obtained.

54/3,AB/10 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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03118789

MANUFACTURE OF THIN FILM TYPE **ELECTROLUMINESCENCE** ELEMENT

PUB. NO.: 02-094289 [JP 2094289 A]
PUBLISHED: April 05, 1990 (19900405)
INVENTOR(s): FUKAO RYUZO
OIWA TSUNEMI
APPLICANT(s): HITACHI MAXELL LTD [000581] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-245638 [JP 88245638]
FILED: September 29, 1988 (19880929)
JOURNAL: Section: E, Section No. 944, Vol. 14, No. 292, Pg. 8, June 25, 1990 (19900625)

ABSTRACT

PURPOSE: To obtain high **luminous intensity** by forming a **light emitting layer** by the electron beam deposition method in the specific atmosphere with an evaporation source made of ZnS containing Sm and F and specifying the Sm concentration in the layer.

CONSTITUTION: A display side electrode 2 made of a thin film of a transparent conducting material is formed on one **surface** of a **base** 1 made of glass, and the first dielectric **layer** 3, a **light emitting layer** 4, the second dielectric **layer** 5, and a back side electrode 6 made of an Al thin film or a thin film of a transparent conducting material are laminated and formed in sequence on the display side electrode 2. The **light emitting layer** 4 is formed with an evaporation source made of ZnS containing Sm and F by the electron beam deposition method in the atmosphere with the degree of vacuum of 5×10^{-6} Torr or below, and the Sm concentration in the layer is set to 0.2-1.0mol%. An **EL element** with high **luminous intensity** can be obtained.

57/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015684522

WPI Acc No: 2003-746711/200370

XRPX Acc No: N03-598392

Electroluminescent display device for **light emitting diode** printer, has control unit which controls driving circuit of **electroluminescent element**, to **emit light** several time per driving cycle

Patent Assignee: NIPPONDENSO CO LTD (NPDE*); HATTORI Y (HATT-I); INOUE T (INOUE-I); KATAYAMA M (KATA-I); OSADA M (OSAD-I); SUZUKI H (SUZU-I); UCHIDA T (UCHI-I); YAMAMOTO Y (YAMA-I)

Inventor: HATTORI Y; INOUE T; KATAYAMA M; OSADA M; SUZUKI H; UCHIDA T; YAMAMOTO Y

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030174199	A1	20030918	US 2003367800	A	20030219	200370 B
JP 2003266766	A	20030924	JP 200272274	A	20020315	200372
JP 2003266765	A	20030924	JP 200272220	A	20020315	200372

Priority Applications (No Type Date): JP 2002257668 A 20020903; JP 200272220 A 20020315; JP 200272274 A 20020315

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030174199	A1		33	B41J-002/435	
JP 2003266766	A		15	B41J-002/44	
JP 2003266765	A		13	B41J-002/44	

Abstract (Basic): US 20030174199 A1

Abstract (Basic):

NOVELTY - The **electroluminescent** (EL) display device (2) includes a scanning electrode driving circuit (110) which applies scanning voltage to both sides of **EL elements** arranged in an array form. A control unit controls the driving circuit, so that the **EL elements emit light** several times per driving cycle.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) driving device for driving **EL elements**;
- (2) printer head;
- (3) driving device for driving print head;
- (4) method of driving EL device; and
- (5) method of driving print head.

USE - **Electroluminescent** (EL) display device for printer head (claimed) of **light emitting diode (LED)** printer and **luminescent** printer.

ADVANTAGE -. Since the **EL elements emit** **light** several times per driving cycle, the amount of light integrated per time increases, hence **EL element** obtains high **luminous power**, even in short emission decay time.

DESCRIPTION OF DRAWING(S) - The figure shows an electric circuit diagram of the **electroluminescent** display device.

- EL elements** (1)
- EL display device (2)
- scanning electrode (90)
- data electrode (10)
- scanning electrode driving circuit (110)

pp; 33 DwgNo 2/27

57/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014233626

WPI Acc No: 2002-054324/200207

Related WPI Acc No: 2002-025273

XRPX Acc No: N02-040000

Multiple function light device e.g. with night light, flash light
function, includes **electro-luminescent** lighting **element**
, additional diodes having different brightness, combined with fuel
powered lighting element

Patent Assignee: CHIEN T (CHIE-I)

Inventor: CHIEN T

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6280053	B1	20010828	US 98158503	A	19980923	200207 B

Priority Applications (No Type Date): US 98158503 A 19980923

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6280053	B1	12	F21S-009/00	

Abstract (Basic): US 6280053 B1

Abstract (Basic):

NOVELTY - An **electro-luminescent lighting**
element (88) and **light emitting** diodes (8) having
different brightness for providing different lighting functions, are
provided by a DC source. A light element (89) powered by burning of
fuel (90) is also provided.

USE - For use as flash light.

ADVANTAGE - A signal device provides different lighting functions.

DESCRIPTION OF DRAWING(S) - The figure shows an isometric view of
non-electrically **powered** lighting and **electro-luminescent**
night light combination.

Light emitting diode (8)

Electro-luminescent lighting **element** (88)

Light element (89)

Fuel (90)

pp; 12 DwgNo 12/12

57/3,AB/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012071719

WPI Acc No: 1998-488630/199842

XRPX Acc No: N98-382126

Goggles type optical stimulus apparatus for brain wave induction
apparatus - has **light emitting element** whose
luminous intensity or emission colour are varied periodically

Patent Assignee: SANYO ELECTRIC CO LTD (SAOL)

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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JP 10211285 A 19980811 JP 9715072 A 19970129 199842 B
JP 3505336 B2 20040308 JP 9715072 A 19970129 200418

Priority Applications (No Type Date): JP 9715072 A 19970129

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 10211285 A 4 A61M-021/02

JP 3505336 B2 4 A61M-021/02 Previous Publ. patent JP 10211285

Abstract (Basic): JP 10211285 A

The apparatus (1) consists of a **light emitting element** (3) such as organic **EL element**. The **light emitting element** gives an optical stimulus to the vision for a constant period. The intensity or emission colour of the **light emitting element** are varied periodically.

ADVANTAGE - Helps in induction of desired brain waves such as alpha wave.

Dwg.1/6

57/3,AB/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009944885

WPI Acc No: 1994-212598/199426

XRAM Acc No: C94-097515

XRPX Acc No: N94-167465

Electroluminescence element - provides reduced power consumption, improving efficiency of display device with many radiation beams

Patent Assignee: MITSUBISHI RAYON CO LTD (MITR)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 6151061	A	19940531	JP 92295789	A	19921105	199426 B

Priority Applications (No Type Date): JP 92295789 A 19921105

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 6151061 A 4 H05B-033/22

Abstract (Basic): JP 6151061 A

The device consists of **luminescence layer** (4) which **emits light** in the presence of electric field. Electrode layer (2) is arranged on either side of the **luminescence layer**. The **electroluminescent element** is furnished with **luminescence layer** made up of the same material as the element, so that it forms a continuous element. The propagation of light from **luminescent layer** is scattered, dispersed by the particles and power consumption is reduced.

ADVANTAGE - Reduced **power** consumption. Efficient **luminescent** light source for display device is obtained.

Dwg.1/4

57/3,AB/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008506531

WPI Acc No: 1991-010615/199102

XRFX Acc No: N91-008265

Power supply for **luminous** hands of timepiece - has rotary transformer between minute and second hands to receive mixed signal from brush conductor

Patent Assignee: SEIKOSHA KK (SUWB)

Inventor: WATANABE I

Number of Countries: 004 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2233478	A	19910109	GB 9013842	A	19900621	199102 B
DE 4019985	A	19910117	DE 4019985	A	19900622	199104
US 4993005	A	19910212	US 90541562	A	19900621	199109
DE 4019985	C	19910606				199123
GB 2233478	B	19930519	GB 9013842	A	19900621	199320
KR 9404395	B1	19940525	KR 909483	A	19900626	199610

Priority Applications (No Type Date): JP 89163175 A 19890626

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
GB 2233478	B		G04B-019/30	
KR 9404395	B1		G04C-010/00	

Abstract (Basic): GB 2233478 A

The timepiece having **luminous** hands (10,20,30) comprises drive signal generator (S) for generating a mixed signal (S3). The mixed signal includes a high and a low frequency signal (S1,S2). An hour hand brush conductor device (14) is connected to an hour hand (10) and arranged for receiving the mixed signal. An hour hand filter (15) is responsive to the mixed signal when supplied to the hour hand brush conductor device for transmitting the low frequency signal for driving an **electroluminescent element** (EL1) of the hour hand.

A minute hand brush conductor device (24) is provided between the hour hand and a minute hand (20) so as to receive the mixed signal from the hour hand brush conductor device. A minute hand filter (25) is responsive to the mixed signal when supplied to the minute hand brush conductor device for transmitting the low frequency signal for driving an **electroluminescent element** (EL2) of the minute hand. A rotary transformer (34) is further provided between the minute and the second hand (30) so as to receive the mixed signal from the minute hand brush conductor device for driving a **luminous** element (L1,EL3) of the second hand.

ADVANTAGE - Has power supply which allows hour, a minute, and second hands to constantly **emit light** without shortening life time of **light emitting elements**. (18pp
Dwg.No.1/5)

Abstract (Equivalent): GB 2233478 B

A timepiece having **luminous** hands and comprising: drive signal generating means for generating a mixed signal, the mixed signal including a high frequency signal and a low frequency signal, an hour hand brush conductor device connected to an hour hand and arranged for receiving the mixed signal, an hour hand filter responsive to the mixed signal when supplied to the hour hand brush conductor device for transmitting the low frequency signal for driving a **luminous** element of the hour hand, a minute hand brush conductor device provided between the hour hand and a minute hand so as to receive the mixed signal from the hour hand brush conductor device, a minute hand filter responsive to the mixed signal when supplied to the minute hand brush conductor device for transmitting the low frequency signal for driving a **luminous** element of the minute hand, and a rotary transformer

provided between the minute hand and a second hand so as to receive the mixed signal from the minute hand brush conductor device for driving a luminous element of a second hand.

Dwg.1/1

Abstract (Equivalent): US 4993005 A

An hour and a minute hand have **electro-luminescence elements** and a second hand has a **light-emitting diode**. The power supply system comprises a drive signal generator for producing a mixed signal consisting of a HF signal and a LF signal. An hour hand brush conductor between a fixed member and the hour hand receives the mixed signal. An hour hand filter passes only the LF signal and sends it to the **electroluminescence** element of the hour hand. A minute hand brush conductor device placed between the hour hand and the minute hand receives the mixed signal from the hour hand brush conductor device. A minute hand filter passes only the LF signal of the mixed signal and sends the LF signal to the **electroluminescence** element of the minute hand.

A rotary transformer between the minute hand and the second hand transfers the mixed signal from the minute hand brush conductor device to the **light-emitting diode** of the second hand. When the second hand alternatively has an **electro-luminescence element**, a converter is provided to convert the HF signal to a LF signal and send this LF signal to the **electroluminescence** element of the second hand.

USE - Power supply system for luminous hands of timing device. (9pp)

57/3,AB/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008198062

WPI Acc No: 1990-085063/199012

Electroluminescent elements used as display and back-lighting to LCD - reduces switching current through inverter and recovers power from inductor to increase power efficiency and brightness

Patent Assignee: DAICHI CO LTD (DAIC-N); IKEDA T (IKED-I); NIPPON BEAM ELECTRONICS CO LTD (NIBE-N); NIHON BEAM ELTRN CO LTD (NIBE-N); DAICHI KOGYO SEIYAKU CO LTD (DAII)

Inventor: IKEDA T; KUROIWA A; SUGA T

Number of Countries: 009 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 359245	A	19900321	EP 89116980	A	19890913	199012 B
AU 8941279	A	19900322				199032
JP 2256191	A	19901016	JP 8955534	A	19890308	199047
US 5027040	A	19910625	US 89406237	A	19890912	199128
EP 359245	B1	19960612	EP 89116980	A	19890913	199628
DE 68926647	E	19960718	DE 626647	A	19890913	199634
			EP 89116980	A	19890913	

Priority Applications (No Type Date): JP 89U30614 U 19890317; JP 88231362 A 19880914; JP 8955534 A 19890308; JP 89U30613 U 19890317

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 359245	A	E	30		

Designated States (Regional): BE DE ES FR IT NL

EP 359245 B1 E 34 H05B-033/08

Designated States (Regional): BE DE ES FR IT NL

Abstract (Basic): EP 359245 A

Electroluminescent (EL) elements are used in displays and as backlighting for liquid crystal displays. A power supply circuit has a DC power supply with an inverter connected across the power supply to produce an AC voltage output. **electroluminescent** display is connected to output of the inverter, with an inductor connected between the inverter and **EL element** such that AC voltage is applied from inverter through the inductor to the **EL element** to **emit light**.

An array of elements have a ~~bipolar~~ capacitor connected across the **EL element**. Power is recovered by an inverse current flow from charge stored in the inverter and this also reduces current during switching.

ADVANTAGE - has improved power supply saving with increased **luminescence**.

Dwg.7/23

Abstract (Equivalent): EP 359245 B

An EL operating power supply circuit comprising a DC power supply (+E, -E), an inverter (T+1, T+2) connected across the power supply for producing an AC voltage at an output thereof, **electroluminescent (EL) means** connected to the output of the inverter, and an inductor (L) inserted between the inverter and the **electroluminescent means** wherein the AC voltage is applied from the inverter through the inductor to the **electroluminescent means** to **emit light**, characterised in that the inverter (Tr1, Tr2) receives a switching signal wherein the frequency and/or pulse duration duty ratio of the switching signal is/are variable.

(Dwg.1/23

Abstract (Equivalent): US 5027040 A

The power supply circuit for operating an **electroluminescent (EL) element** comprises a DC power supply, an inverter connected across the power supply, and the **EL element** connected to the inverter. An inductor is inserted between the inverter and the **EL element** wherein an AC voltage is applied from the inverter through the inductor to the **EL element** to **emit light**.

Another EL operating circuit includes a DC power supply, an inverter, a transformer, and a bipolar capacitor connected in this order and an AC power output on a secondary winding of the transformer is applied to an **EL element** to generate light.

ADVANTAGE - Both the circuits enables a noticeable **luminance** increase and **power** saving. (33pp)

57/3,AB/7 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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07759220

LUMINESCENT COMPOSITION

PUB. NO.: 2003-253128 [JP 2003253128 A]

PUBLISHED: September 10, 2003 (20030910)

INVENTOR(s): SAKAKIBARA MITSUHIKO

ERIYAMA YUICHI

YASUDA HIROYUKI

APPLICANT(s): JSR CORP

APPL. NO.: 2002-052608 [JP 200252608]

FILED: February 28, 2002 (20020228)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an organic **luminescent** composition which can give an **electroluminescent element** capable of **emitting** a blue **light**, having high **luminous intensity** and **luminous** efficiency, and excellent in durability, and which can easily form an organic material layer by a wet process.

SOLUTION: The **luminescent** composition contains a specified iridium complex compound and a polymeric substance having hole transfer capability. It is desirable that the polymeric substance having hole transfer capability comprises a copolymer consisting of 50-99 mol% of structural units derived from a hole transfer monomer and 1-50 mol% of structural units derived from an electron transfer monomer, or it comprises a polymer composition consisting of a hole transfer polymer obtained by polymerizing a hole transfer monomer, and an electron transfer polymer obtained by polymerizing an electron transfer monomer at a molar ratio, in terms of monomers, of the hole transfer polymer to the electron transfer polymer of (50:50) to (99:1).

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57/3,AB/8 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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07637765

SELF **LIGHT EMITTING** TYPE DISPLAY DEVICE.

PUB. NO.: 2003-131619 [JP 2003131619 A]
PUBLISHED: May 09, 2003 (20030509)
INVENTOR(s): HANARI ATSUSHI
APPLICANT(s): TOSHIBA CORP
APPL. NO.: 2001-328058 [JP 2001328058]
FILED: October 25, 2001 (20011025)

ABSTRACT

PROBLEM TO BE SOLVED: To adjust **luminance** and chromaticity regardless of gradation control.

SOLUTION: The device is provided with a plurality of display pixels PX which constitute of a display screen, a plurality of scanning lines Y which are arranged along the rows of the pixels PX, a plurality signal lines X which are arranged along the columns of a plurality of the display **elements** and an **EL** power supply 14 which supplies a power supply voltage to the pixels PX. Each pixel PX includes an organic **EL element** 16 which **emits light** in either one of red, green and blue **light emitting** colors, a pixel switch 18 which takes in video signals from the corresponding signal line X responding to the scanning signals from the corresponding line Y and a driving element 17 which supplies a driving current corresponding to the video signals from the switch 18 and is connected between the element 16 and the power supply 14. Each element 16 is also connected to the **power** supply 14 via **luminance** adjusting switches 20R, 20G and 20B which are made independent for every **light emitting** color.

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57/3,AB/9 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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07598337

ELECTROLUMINESCENT (EL) DISPLAY UNIT

PUB. NO.: 2003-092183 [JP 2003092183 A]
PUBLISHED: March 28, 2003 (20030328)
INVENTOR(s): ISHIZUKA SHINICHI
APPLICANT(s): PIONEER ELECTRONIC CORP
APPL. NO.: 2001-281714 [JP 2001281714]
FILED: September 17, 2001 (20010917)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an EL display unit capable of realizing suitable image display corresponding to an input image signal with a simple structure.

SOLUTION: N **luminescence** driving transistors for feeding **luminescence** driving currents to N **electroluminescent elements** have each such channel width that a current ratio of the **luminescence** driving current generated by them becomes a value for making N **electroluminescent elements** emit light at a desired **luminescence intensity**.

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DIALOG(R)File 347:JAPIO
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07588126

ORGANIC ELECTROLUMINESCENT ELEMENT AND NOVEL THIOPHENE

PUB. NO.: 2003-081969 [JP 2003081969 A]
PUBLISHED: March 19, 2003 (20030319)
INVENTOR(s): ISHIDA TSUTOMU
SHIMAMURA TAKEHIKO
TANABE YOSHIMITSU
TOTANI YOSHIYUKI
NAKATSUKA MASAKATSU
APPLICANT(s): MITSUI CHEMICALS INC
APPL. NO.: 2002-147629 [JP 2002147629]
FILED: May 22, 2002 (20020522)
PRIORITY: 2001-162586 [JP 2001162586], JP (Japan), May 30, 2001
(20010530)
2001-203918 [JP 2001203918], JP (Japan), July 04, 2001
(20010704)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an organic **electroluminescent element** that **emits light** of high **intensity** with excellent **luminous efficiency**.

SOLUTION: The organic **electroluminescent element** has at least one layer including at least one of the compound represented by general formula (1) [wherein R1-R3 are each H, an alkyl, an aryl or an aralkyl; Y is H or a group represented by formula (a) (wherein R4-R6 are each H, an

alkyl, an aryl or an aralkyl); Z1 and Z2 are each H, a halogen, an alkyl, an alkoxy, substituted or unsubstituted amino, an aryl or aralkyl] sandwiched between a pair of electrodes.

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57/3,AB/11 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO
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07456161
ORGANIC **ELECTROLUMINESCENT ELEMENT, LIGHT EMITTING**
SOURCE, **LIGHTING** DEVICE, DISPLAY DEVICE AND **LIGHT-EMISSION**
METHOD

PUB. NO.: 2002-324676 [JP 2002324676 A]
PUBLISHED: November 08, 2002 (20021108)
INVENTOR(s): SUZURISATO YOSHIYUKI
GENDA KAZUO
OSHIYAMA TOMOHIRO
UEDA NORIKO
KITA HIROSHI
APPLICANT(s): KONICA CORP
APPL. NO.: 2001-129284 [JP 2001129284]
FILED: April 26, 2001 (20010426)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an organic **EL element** with maximum **light-emitting** wavelength of not more than 415 nm of high **luminous** efficiency which **saves power, emits** sheet **light** and can be used for manufacturing a flexible device, as well as a **light emitting** source, a **lighting** device, a display device and a **light-emitting** method using the organic **EL element**.

SOLUTION: With the organic **EL element** having a pair of electrodes and an organic compound thin film pinched by the pair of the electrodes, the organic compound thin **film** is provided with a **light emitting layer** and an adjacent **layer** adjacent to the **light emitting layer**, with fluorescence maximum wavelength of each of **light emitting** material constituting the **light emitting layer** and an adjacent **layer** material constituting the adjacent layer of not more than 415 nm.

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57/3,AB/12 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO
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07411677
ORGANIC **EL ELEMENT**

PUB. NO.: 2002-280187 [JP 2002280187 A]
PUBLISHED: September 27, 2002 (20020927)
INVENTOR(s): MORII KATSUYUKI
UCHIDA MASAHIRO
APPLICANT(s): SEIKO EPSON CORP

APPL. NO.: 2001-076041 [JP 200176041]
FILED: March 16, 2001 (20010316)

ABSTRACT

PROBLEM TO BE SOLVED: To provide required **luminous intensity** when **emitting light** and high **transparency** when **emitting no light**, in an organic **EL element** wherein a **luminescent** part is partitioned by an insulating layer.

SOLUTION: When the thickness of the insulating layer 3 is set at 1500 Å, a negative electrode 5 is formed so as to have a double layer structure comprising a 120 Å thick thin film of calcium and a 20 Å thick thin film of gold.

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57/3,AB/13 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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07241906

ORGANIC **ELECTROLUMINESCENT ELEMENT** AND FORMATION METHOD OF **ELECTROLUMINESCENCE ELEMENT METAL COMPLEX**

PUB. NO.: 2002-110357 [JP 2002110357 A]
PUBLISHED: April 12, 2002 (20020412)
INVENTOR(s): KITA HIROSHI
MATSUURA MITSUYOSHI
SUZURISATO YOSHIYUKI

APPLICANT(s): KONICA CORP

APPL. NO.: 2000-298878 [JP 2000298878]
FILED: September 29, 2000 (20000929)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an organic **electroluminescent element** that has a high **luminous intensity** and a long life of **luminance** and a new method of forming a metal complex that is useful as an organic **electroluminescent element** material in the organic **electroluminescent element**.

SOLUTION: In the organic **electroluminescent element** which interposes an organic layer made of an organic compound film of a single or plural layers between the two mutually opposing electrodes, and which contains a ligand that is capable of forming a metal ion and complex in at least one layer of the organic compound layer and which also contains a metal source that emits metal ions in any place between the two electrodes, a metal complex that is newly formed by the ligand and the metal ions emitted from the metal source at the time of forming the **element** or after forming the **element**, **emits light** by the electric field.

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57/3,AB/14 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO
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06125912

LUMINOUS MATERIAL FOR ORGANIC ELECTROLUMINESCENT ELEMENT

AND ORGANIC **ELECTROLUMINESCENT ELEMENT** USING IT

PUB. NO.: 11-067449 [JP 11067449 A]
PUBLISHED: March 09, 1999 (19990309)
INVENTOR(s): ENOKIDA TOSHIO
OKUTSU SATOSHI
ONIKUBO SHIYUNICHI
MAKI SHINICHIRO
TAMANO MICHIKO

APPLICANT(s): TOYO INK MFG CO LTD

APPL. NO.: 09-216135 [JP 97216135]

FILED: August 11, 1997 (19970811)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an organic **electroluminescent element** that can **emit light** from blue to red, has high **luminous intensity** and can **emit light** for a long time by using a gallium complex as its **luminous material**.

SOLUTION: The compound used for a material for this organic **electroluminescent element** is expressed by formula. In the formula, each of Q1 and Q2 is a ligand independent of each other having a particular structure. L designates such as a substituted or unsubstituted alkyl group, a substituted or unsubstituted cycloalkyl group, a substituted or unsubstituted aryl group, a substituted or unsubstituted heterocyclic group or the like. When this gallium complex compound is used for an organic layer of an organic **electroluminescent element** and, in particular, this compound is combined with a suitable doping material as a host material, it shows high **luminous efficiency** throughout a wide **luminous range** from blue to red depending on the fluorescence wave length of the doping material. In addition, most of compounds of this type have a melting point of 300°C or more so that they can be well suited to make an element having a long life.

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57/3,AB/15 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO
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04883781

METHOD FOR DRIVING **ELECTROLUMINESCENT ELEMENT**

PUB. NO.: 07-176381 [JP 7176381 A]
PUBLISHED: July 14, 1995 (19950714)
INVENTOR(s): EGUCHI TAKESHI
KAWADA HARUNORI
NISHIMURA YUKIO

APPLICANT(s): CANON INC [000100] (A Japanese Company or Corporation), JP
(Japan)

APPL. NO.: 06-332354 [JP 94332354]

FILED: December 14, 1994 (19941214)

ABSTRACT

PURPOSE: To provide a method for driving an **electroluminescent element** which provides sufficiently high brightness even when driven at low voltage, is inexpensive and easy to manufacture by combining specific materials into the specific constitution of a two-layer structural phosphor layer sandwiched between a transparent electrode and a back electrode.

CONSTITUTION: The first **luminescent** layer 4 of a two-layer structural phosphor layer 2 faces a transparent electrode layer 1 and comprises a monomolecular film or its built-up film made of at least one kind of **electroluminescent** organic compound of electron acceptability relative to a second phosphor layer 5. The phosphor layer 5 faces a back electrode layer 3 and comprises a built-up film made using resistance heating deposition or CVD method from at least one kind of **electroluminescent** organic compound of electron releasability relative to the phosphor layer 4. A voltage of 10V or less is applied to the electrode films 1 and 3 to cause the phosphor **layer 2** to **emit light**. **Luminous intensity** and **lumipous** color can be varied and longevity enhanced by varying the difference in electronegativity between the phosphor layers 4 and 5.

57/3,AB/16 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO
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04732956

MANUFACTURE OF DISPERSION TYPE **ELECTROLUMINESCENT ELEMENT**

PUB. NO.: 06-203956 [JP 6203956 A]
PUBLISHED: July 22, 1994 (19940722)
INVENTOR(s): SATO NAKASHI
APPLICANT(s): KOBAYASHI SOUJI [000000] (An Individual), JP (Japan)
ERITSUKUSU KK [000000] (A Japanese Company or Corporation),
JP (Japan)
APPL. NO.: 03-181087 [JP 91181087]
FILED: July 22, 1991. (19910722).

ABSTRACT

PURPOSE: To provide a dispersion type **electroluminescent element** having a long life and small power consumption even when a large **luminance** gradient is given thereto by providing an optional **luminance** gradient in a **light emitting** part at segment and pattern emission.

CONSTITUTION: In a dispersion type **electroluminescent element** (EL) consisting of a moisture-proof layer 1, a water supply layer 2, a transparent electrode **layer 3**, a **light emitting layer 4**, a back plate **layer 5**, and a reflecting insulating layer 6, an optional **luminance** gradient is provided on a **light emitting** part at segment and pattern emission. Thus, the **luminance** gradient can be given without shortening the life nor increasing the **power** consumption. The optional **luminance** gradient is preferably provided on the **light emitting** part by etching or **coating** the electrode 3 or the electrode 5 to give a field strength difference between both electrodes.

57/3,AB/17 (Item 11 from file: 347)
DIALOG(R)File 347:JAPIO
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03668192

EL LIGHT EMITTING ELEMENT

PUB. NO.: 04-033292 [JP 4033292 A]
PUBLISHED: February 04, 1992 (19920204)

INVENTOR(s): YOSHIDA TOSHIKI
ICHISE MIKIO
TAKAHASHI HIDEYUKI
YAMAZAKI SHIGERU
APPLICANT(s): IWASAKI ELECTRIC CO LTD [000019] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 02-137073 [JP 90137073]
FILED: May 29, 1990 (19900529)
JOURNAL: Section: E, Section No. 1202, Vol. 16, No. 204, Pg. 79, May
15, 1992 (19920515)

ABSTRACT

PURPOSE: To secure **luminous** efficiency over the life period and improve the moisture-proof and water-proof characteristics by using a polymerized film made of polyolefin resin and vinylidene chloride resin for a moisture-proof film.

CONSTITUTION: A moisture-proof film 6 and a moisture-proof film 7 are sealed by thermal pressure welding from the above and under a **luminous** section 5 laminated with a **luminous** layer 3 and a transparent electrode 4 via an insulating layer 2 on a back electrode 1 to form this element, the moisture-proof film 7 is made of nylon, and the moisture-proof film 6 is made of a polymer of polyolefin resin and vinylidene chloride resin. Since the polymerized film 6 made of inexpensive polyolefin resin and vinylidene chloride resin is used in place of the conventional moisture-proof film made of fluoro-resin, the blackening of the **luminous** face is reduced over the life period, the reduction of **intensity** is small, the **luminous** characteristic is not reduced, and this element can be manufactured at a low cost as compared with the conventional one.

57/3,AB/18 (Item 12 from file: 347)
DIALOG(R)File 347:JAPIO
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03594890

ELECTROLUMINESCENCE (EL) LIGHT EMITTING
ELEMENT

PUB. NO.: 03-257790 [JP 3257790 A]
PUBLISHED: November 18, 1991 (19911118)
INVENTOR(s): MATSUOKA KATSUHIRO
KASAI SHIRO
MORIGUCHI TOSHIO
HISAZUMI YUKINORI
APPLICANT(s): NICHIA CHEM IND LTD [424878] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 02-056070 [JP 9056070]
FILED: March 06, 1990 (19900306)
JOURNAL: Section: E, Section No. 1166, Vol. 16, No. 59, Pg. 108,
February 14, 1992 (19920214)

ABSTRACT

PURPOSE: To obtain an **EL light emitting element** with an excellent **luminous intensity** characteristic and a long durability characteristic by employing a specific ZnS : Cu, Br phosphor.

CONSTITUTION: An **EL light emitting element** is made of a pair of electrode layers 3, 4 arranged oppositely to each other and

holding a **light emitting layer 1** and an insulating **layer 2** therebetween, moisture-proof films 5, 6 for cutting off outside air, and moisture-proof covering films 7, 8 for airtightly enclosing the whole body. Composition of a phosphor of the **light emitting layer 1** is expressed by a general formula $\text{ZnS} : \text{Cu, Br}$ and a Cu content to zinc sulfide is set within a range of $1 \times 10^{-4} \leq \text{Cu/ZnS} \leq 50 \times 10^{-4}$, a content ratio of Cu or Br within a range of $0.6 \leq \text{Cu/Br} \leq 1.5$, and an average grain diameter of the phosphor grains is set within $3\text{--}20\mu\text{m}$. Accordingly, an **EL light emitting element** with high **luminous intensity** and long durability can be obtained.

03/25/2004

10/085,607

25mar04 11:47:39 User267149 Session D1308.1

SYSTEM:OS - DIALOG OneSearch

File 2:INSPEC 1969-2004/Mar W2

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File 305:Analytical Abstracts 1980-2004/Mar W3

(c) 2004 Royal Soc Chemistry

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File 315:ChemEng & Biotec Abs 1970-2004/Feb

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200419

(c) 2004 Thomson Derwent

*File 350: For more current information, include File 331 in your search. Enter HELP NEWS 331 for details.

File 347:JAPIO Nov 1976-2003/Nov(Updated 040308)

(c) 2004 JPO & JAPIO

*File 347: JAPIO data problems with year 2000 records are now fixed. Alerts have been run. See HELP NEWS 347 for details.

File 344:Chinese Patents Abs Aug 1985-2004/Mar

(c) 2004 European Patent Office

File 371:French Patents 1961-2002/BOPI 200209

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*File 371: This file is not currently updating. The last update is 200209.

03/25/2004

10/085,607

Set	Items	Description
S1	38940	AU=(HAYASHI, K? OR HAYASHI K?)
S2	2072	AU=(FUKUCHI, T? OR FUKUCHI T?)
S3	2279	AU=(TSUBOI, S? OR TSUBOI S?)
S4	10	S1 AND S2
S5	9	S4 AND S3
S6	9	RD (unique items)
S7	43268	S1:S3
S8	43258	S7 NOT S4
S9	2605	S8 AND (LIGHT???????()EMIT???????() (DIOD? ? OR DEVICE? ?) - OR LED? ? OR LUMIN???????? OR PHOTOILLUMINAT? OR ILLUMINAT? OR ILLUM? OR ILLUMINE? OR LASER? ? OR PLD OR ELECTROLUMIN?)
S10	25	S9 AND (LIGHT?(3N)EMIT?(1N) (ELEMENT? ? OR LAYER??? OR FILM- ??? OR COAT??? OR MULTILAYER??? OR MULTI()LAYER????? OR SPACE- R??? OR INTERLAYER???? OR INTER()LAYER????? OR MULTIPLE()LAYER- R? ?))
S11	25	RD (unique items)
S12	0	S11 AND (ELECTRO()LUMINESCEN?(2N)ELEMENT? ? OR EL(2N)ELEMEN- T? ? OR ELECTROLUMINESCENT(3N)ELEMENT? ?)
S13	25	S11 AND LIGHT?(3N) (SENSOR OR SENSING OR SENSE OR SENSING OR SWITCH? OR TRANSPAREN? OR EMIT?)
S14	0	S13 AND ((LOWER OR UPPER) (3N) ((MICRO) (W) (ELECTRONIC? OR C- IRCUIT? ? OR CHIP? ?) OR CHIP? ? OR MICROCIRCUIT? ? OR DIE? ? OR LOGIC(W)CIRCUIT? ? OR WAFER? ? OR MICROELECTRONIC OR DICE - OR ELECTRODE? ?))
S15	25	S13

6/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015031363

WPI Acc No: 2003-091880/200308

XRPX Acc No: N03-072815

Light emitting element for display device, has transparent electrode containing mixture, of oxide of indium and tin, having specific structural formula

Patent Assignee: NEC CORP (NIDE)

Inventor: FUJIEDA I; **FUKUCHI T; HAYASHI K; TSUBOI S**

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020158588	A1	20021031	US 200285902	A	20020227	200308 B
JP 2002252088	A	20020906	JP 200151410	A	20010227	200308
KR 2002070158	A	20020905	KR 200210687	A	20020227	200311
US 6628086	B2	20030930	US 200285902	A	20020227	200367

Priority Applications (No Type Date): JP 200151410 A 20010227

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020158588	A1		69 G09G-003/10	
JP 2002252088	A	34	H05B-033/26	
KR 2002070158	A		C09K-011/66	
US 6628086	B2		G09G-003/10	

Abstract (Basic): US 20020158588 A1

Abstract (Basic):

NOVELTY - A substrate (11) has transparent electrode (21a) over which light emitting material and upper electrode are formed sequentially. The transparent electrode is made up of mixture, of oxide of indium and tin, having structural formula $\text{In}_{2-x}\text{Sn}_x\text{O}_{3-y}$, where y lies in the range of 0.05 and 0.2.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for display device.

USE - For display device (claimed), e.g. organic EL device.

ADVANTAGE - The display device with improved light emission property for long period of time, can be obtained effectively.

DESCRIPTION OF DRAWING(S) - The figure shows a cross-sectional view of the light emitting element.

Substrate (11)

Transparent electrode (21a)

pp; 69 DwgNo 9A/55

6/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014916005

WPI Acc No: 2002-736712/200280

XRPX Acc No: N02-580998

Light emitting element for display device, includes optical sensor on upper electrode to detect intensity of emitted light

Patent Assignee: NEC CORP (NIDE)

Inventor: **FUKUCHI T; HAYASHI K; TSUBOI S**

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2002260851	A	20020913	JP 200152741	A	20010227	200280 B
US 20030047736	A1	20030313	US 200285607	A	20020227	200321

Priority Applications (No Type Date): JP 200152741 A 20010227

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2002260851	A	21	H05B-033/08	
US 20030047736	A1		H01L-027/15	

Abstract (Basic): JP 2002260851 A

Abstract (Basic):

NOVELTY - The light emitting element (4) has a luminescent material layer (12) between upper and lower electrodes (11,13) formed on a substrate (10). An optical sensor (1) formed on the upper electrode, detects the intensity of light emitted from the light emitting element.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for light emission system.

USE - E.g. electroluminescent element for display device.

ADVANTAGE - Suppresses brightness irregularity and color non-uniformity. Improves optical intensity detection sensitivity by guiding the emitted light to the sensor efficiently.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the light emission system.

Optical sensor (1)

Light emitting element (4)

Substrate (10)

Upper and lower electrodes (11,13)

Luminescent material layer (12)

pp; 21 DwgNo 1/16

6/3,AB/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014798615

WPI Acc No: 2002-619321/200266

XRAM Acc No: C02-175071

XRPX Acc No: N02-490206

Organic EL device

Patent Assignee: NEC CORP (NIDE)

Inventor: FUKUCHI T; HAYASHI K; ODA A; TSUBOI S

Number of Countries: 004 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200263929	A1	20020815	WO 2002JP880	A	20020204	200266 B
JP 2002237390	A	20020823	JP 200131813	A	20010208	200271

Priority Applications (No Type Date): JP 200131813 A 20010208

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200263929	A1	J 96	H05B-033/28	

Designated States (National): CN KR US

JP 2002237390 A 27 H05B-033/26

Abstract (Basic): WO 200263929 A1

Abstract (Basic):

NOVELTY - Organic EL device having a light emitting element comprising a first electrode (2), a second electrode (4) of transparent

15/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015505389

WPI Acc No: 2003-567536/200353

XRPX Acc No: N03-451205

Organic **electroluminescent** display for electronic instruments, has
sealing **layer** to seal **light-emitting** unit and has heat
radiation **layer** with thermal conductivity

Patent Assignee: SEIKO EPSON CORP (SHJL.)

Inventor: HAYASHI K

Number of Countries: 004 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030085654	A1	20030508	US 2002285542	A	20021101	200353 B
CN 1416006	A	20030507	CN 2002147234	A	20021018	200353
JP 2003142255	A	20030516	JP 2001338045	A	20011102	200353
KR 2003036089	A	20030509	KR 200267371	A	20021101	200358

Priority Applications (No Type Date): JP 2001338045 A 20011102

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030085654	A1		8	H05B-033/00	
CN 1416006	A			G02F-001/161	
JP 2003142255	A		7	H05B-033/04	
KR 2003036089	A			H05B-033/04	

Abstract (Basic): US 20030085654 A1

Abstract (Basic):

NOVELTY - The apparatus has a **light-emitting** unit (3)
and a sealing **layer** (4) to hermitically seal the **light-**
emitting unit. The sealing **layer** includes a heat radiation
layer with thermal conductivity, a gas barrier, and an insulating
layer. The gas barrier layer is made of an inorganic compound and the
insulating layer is made of an organic compound.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a
manufacturing method of an electro-optical apparatus with a **light**
-emitting unit.

USE - Used for electronic apparatus such as an organic electro
luminescence apparatus.

ADVANTAGE - The apparatus reduces thickness of the sealing
layer while suppressing a thermal effect. The **light-**
emitting unit with the sealing **layer** avoids the degradation
due to oxygen or moisture without increasing the thickness.

DESCRIPTION OF DRAWING(S) - The drawing shows a sectional view of a
light-emitting unit on a substrate sealed with a sealing
layer.

Light-emitting unit. (3)

Sealing layer. (4)

pp; 8 DwgNo 1/2

15/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015114148

WPI Acc No: 2003-174668/200317

XRPX Acc No: N03-137559

Light emitting unit for active matrix EL display device,
includes auxiliary electrode which is formed on **light**
emitting layer through insulation **layer**

Patent Assignee: NEC CORP (NIDE); HAYASHI K (HAYA-I); ODA A (ODAA-I)

Inventor: **HAYASHI K**; ODA A

Number of Countries: 003 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020167280	A1	20021114	US 2002141649	A	20020509	200317 B
JP 2002343578	A	20021129	JP 2001139987	A	20010510	200317
CN 1386039	A	20021218	CN 2002119711	A	20020510	200326

Priority Applications (No Type Date): JP 2001139987 A 20010510

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020167280	A1		37	G09G-003/10	
JP 2002343578	A		23	H05B-033/26	
CN 1386039	A			H05B-033/12	

Abstract (Basic): US 20020167280 A1

Abstract (Basic):

NOVELTY - An intermediate **light emitting layer**

(1) is interposed with the cathode (3a) and anode (5a) such that the cathode partially faces the anode through the **light emitting layer**. An auxiliary electrode (4a) is formed on the **light emitting layer** through an insulation **layer** (2).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) **Light emitting device**;
- (2) **Light emitting display**; and
- (3) Active matrix display.

USE - For active matrix display device (claimed), EL display device.

ADVANTAGE - The **light emitting layer** of the cathode improves the reliability and **luminance** of the **light emitting unit**.

DESCRIPTION OF DRAWING(S) - The figure shows the isometric view of the **light emitting unit**.

Light emitting material layer (1)
Insulation layer (2)
Cathode(34a) Auxiliary electrode (3a)
Anode (5a)
pp; 37 DwgNo 1/38

15/3,AB/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012643723

WPI Acc No: 1999-449828/199938

XRFX Acc No: N99-336310

Hole transportation **layer** of organic **light emitting element** - has diamond film with boron concentration in predetermined range

Patent Assignee: KOBE STEEL LTD (KOBM); KOBE SEIKO SHO KK (KOBM)

Inventor: HAMAGUCHI M; **HAYASHI K**; KOBASHI K; TACHIBANA T; YOKOTA Y;
YOSHINO K

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11185964	A	19990709	JP 97349537	A	19971218	199938 B
US 6198218	B1	20010306	US 98215297	A	19981218	200115

Priority Applications (No Type Date): JP 97349537 A 19971218

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 11185964	A	8	H05B-033/22	
US 6198218	B1		H01J-001/62	

Abstract (Basic): JP 11185964 A

NOVELTY - The hole transportation layer has a diamond film with boron concentration of 1.0 multiply 10¹⁹-1.0 multiply 10²¹ divided by cm³.

USE - For organic **light emitting element** used in back **light** for liquid crystal displays, in flat surface **illumination** light source for flat surface panel display.

ADVANTAGE - Obtains high **luminous** efficiency with high stability due to the use of boron in diamond film. Mixing of impurities in diamond film is prevented, hence diamond film of low resistance is obtained. DESCRIPTION OF DRAWING(S) - The figure shows graph drawn between boron concentration in diamond **film** and **light** intensity of organic **light emitting element**.

Dwg.3/4

15/3,AB/4 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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07621952

LIGHT EMITTING DEVICE AND COMMUNICATION SYSTEM

PUB. NO.: 2003-115803 [JP 2003115803 A]

PUBLISHED: April 18, 2003 (20030418)

INVENTOR(s): ODA ATSUSHI

HAYASHI KAZUHIKO

AZUMAGUCHI TATSU

APPLICANT(s): NEC CORP

APPL. NO.: 2001-311659 [JP 2001311659]

FILED: October 09, 2001 (20011009)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a **light emitting device** and a communication system provided with the same, in which a communication velocity is accelerated in a **light emitting device** to be used for communication using light, and to provide a communication system, in which information recorded in an information storage part (storage means) installed on an identification* target can be rewritten without trouble.

SOLUTION: In the **light emitting device** provided with a **light emitting** body 120 capable of transmitting signal light composed of light modulated on the basis of inputted data, the **light emitting** body 120 is an **electroluminescence element**. Besides, the **light emitting** body 120 emits non-signal **light** composed of non-modulated light and signal light in different periods and the non-signal light functions as **illumination** as well. Further, the signal light functions as **illumination** as well.

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15/3,AB/5 (Item 2 from file: 347)
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07511851
DISPLAY ELEMENT AND IMAGE DISPLAY DEVICE

PUB. NO.: 2003-005674 [JP 2003005674 A]
PUBLISHED: January 08, 2003 (20030108)*
INVENTOR(s): HAYASHI KUNIIHIKO
USUI HAYAO
APPLICANT(s): SONY CORP
APPL. NO.: 2001-183906 [JP 2001183906]
FILED: June 18, 2001 (20010618)

ABSTRACT

PROBLEM TO BE SOLVED: To suppress the deterioration of a pixel or the unevenness of brightness in a LED display.

SOLUTION: A display element is provided with a plurality of light emitting elements which emit light in the same color. An image display device is formed of the display elements arranged in a matrix-shape. A plurality of the light emitting elements are embedded in an insulation material so as to be display elements. The display element is provided with a plurality of light emitting elements which emit light in respective colors, when a red color light emitting element, a green color emitting element; and a blue color emitting element are equipped therewith. In a display element provided with a plurality of light emitting elements which emit light in the same color, when one light emitting element has a defect and does not afford light, the deterioration of a pixel is not caused because the rest of the light emitting elements emit light.

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15/3,AB/6 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
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07499769
RESIN FORMING ELEMENT, IMAGE DISPLAY, AND ILLUMINATION EQUIPMENT, AND METHOD OF MANUFACTURING THE SAME

PUB. NO.: 2002-368289 [JP 2002368289 A]
PUBLISHED: December 20, 2002 (20021220)
INVENTOR(s): OHATA TOYOJI
IWABUCHI TOSHIAKI
HAYASHI KUNIIHIKO
OBA HIROSHI
APPLICANT(s): SONY CORP
APPL. NO.: 2001-176643 [JP 2001176643]
FILED: June 12, 2001 (20010612)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a resin formed element which enables

to increase the **light** extraction efficiency from a **light-emitting element** and to enlarge angle of visibility, without newly generating a manufacturing cost and a parts cost when manufacturing an image display and **illumination** equipment, which are formed by arranging resin formed elements, each of which is such that a **light-emitting element** is **coated** with a resin, and also to provide an image display and an **illumination** equipment, and a method of manufacturing the same.

SOLUTION: Unevenness is formed on a light-extracting surface of the resin formed element, and the light extraction efficiency and the expansion of an angle of visibility are increased, by suppressing the total reflection and by light scattering on the light-extracting surface. Since the unevenness can be formed, when releasing the resin formed element from a member for temporary retention, there is no generation of new manufacturing cost or cost for new parts.

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15/3,AB/7 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO
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07475060

**LIGHT-EMITTING BODY, LIGHT-EMITTING ELEMENT
AND LIGHT-EMITTING DISPLAY DEVICE**

PUB. NO.: 2002-343578 [JP 2002343578 A]
PUBLISHED: November 29, 2002 -(2002-1129)
INVENTOR(s): **HAYASHI KAZUHIKO**
ODA ATSUSHI
APPLICANT(s): NEC CORP
APPL. NO.: 2001-139987 [JP 2001139987]
FILED: May 10, 2001 (20010510)

ABSTRACT

PROBLEM TO BE SOLVED: To obtain a **light-emitting body**, a **light-emitting element** and a **light-emitting display device** that are improved in **light-emitting life** by preventing corrosion as it has become possible to use a material of low corrosion for the cathode material, as a result of increased emission quantity in the **luminous** material layer or wide range of selection of the **luminous** layer and the cathode material.

SOLUTION: In the **light-emitting body**, which is made of an anode and a cathode of which a part is installed opposed to each other through a **luminous** material layer, an auxiliary electrode is formed through an insulating layer on the opposite face to the face opposed to the cathode through the **luminous** material ~~layer~~ of the anode. In this **light-emitting body**, a voltage is impressed between the auxiliary electrode and the cathode so that it may be in the same direction as the direction of the voltage that is impressed between the anode and the cathode.

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15/3,AB/8 (Item 5 from file: 347)
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05748334

LIGHT EMITTING DIODE, DISPLAY UNIT, AND DISPLAY DEVICE

PUB. NO.: 10-031434 [JP 10031434 A]
PUBLISHED: February 03, 1998 (19980203)
INVENTOR(s): KOJIMA HIROYUKI
YAMAZAKI KYOJI
IDE KATSUYUKI
NAKAOKA KENICHI
NAKAJIMA JUNICHI.
HAYASHI KAZUO

APPLICANT(s): TOSHIBA LIGHTING & TECHNOL CORP [461465] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 09-042496 [JP 9742496]
FILED: February 26, 1997 (19970226)

ABSTRACT

PROBLEM TO BE SOLVED: To prevent the deterioration by moisture and UV rays by eliminating the need for cleaning or making cleaning intervals longer, and protecting an enclosure.

SOLUTION: A photocatalyst film 2 is formed on the outside surface of the translucent enclosure 1c of a **light emitting diode element** 1. An inorganic and translucent protective layer 3 is interposed under this photocatalyst layer at need. The photocatalyst may be formed on the outside surface of a glass cap and mounted on the **light emitting diode** or may be formed on the front surface of a unit transparent body disposed in front of the **light emitting diode** in addition to the formation on the **light emitting diode**. The formation of the photocatalyst on the cover of the front surface of a display unit or display device is equally good. The photocatalyst film is activated by receiving the irradiation with the UV rays to decompose the contaminants sticking thereto by an oxidation and reduction effect.

15/3,AB/9 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO
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04490212

JAPANESE PINBALL GAME @ (3754/24) PACHINKO) MACHINE

PUB. NO.: 06-134112 [JP 6134112 A]
PUBLISHED: May 17, 1994 (19940517)
INVENTOR(s): ICHIHARA SHIGERU
HAYASHI KATSUHIKO
TERAMOTO TOMIO

APPLICANT(s): DAIICHI SHOKAI CO LTD [365374] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-314172 [JP 92314172]
FILED: October 28, 1992 (19921028)
JOURNAL: Section: C, Section No. 1237, Vol. 18, No. 433, Pg. 149, August 12, 1994 (19940812)

ABSTRACT

PURPOSE: To specify a pattern displaying mode with respect to a picture pattern shown by a picture pattern display device.

CONSTITUTION: A picture pattern device 2 having a first upper display body

30A and a first lower display body 30B for variably displaying patterns and middle picture displayed by **light emitting elements** and a second display body 40 which is driven to rotate by a display body driving motor and variably displays plural picture patterns including V and a prize-winning device 3 having a great prize-winning port 4 are installed in a game board 1, and both first display bodies 30A, 30B and a second display body 40 execute opening/closing control of the great prize-winning port 4, based on the result of decision of a combination of specific picture patterns.

15/3,AB/10 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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04465732
PHOTOELECTRIC SENSOR

PUB. NO.: 06-109632 [JP 6109632 A]
PUBLISHED: April 22, 1994 (19940422)
INVENTOR(s): OBATA KENJI
HAYASHI KOZO
OKUYAMA KENJI
APPLICANT(s): MATSUSHITA ELECTRIC WORKS LTD [000583] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-255223 [JP 92255223]
FILED: September 25, 1992 (19920925)
JOURNAL: Section: P, Section No. 1772, Vol. 18, No. 384, Pg. 94, July 19, 1994 (19940719)

ABSTRACT

PURPOSE: To provide a correct output value even when a dirt sticks to the inside of a sensor.

CONSTITUTION: A clock circuit 20 and a timer 21 periodically open a gate 22, read a sensor output and store it in a memory 23. When the value stored in the memory 23 exceeds the threshold value of a comparator 24, the output signal of comparator 24 adjusts the resistance value of a volume 25 of an LED driver 16, to continuously suppress the **light-emission** amount from a **light emitting element** 3 which is an infrared ray **light emitting diode(LED)**. So, even if a sensor output increases due to stuck dirt, the **light** emission amount of the **light emitting element** 3 is decreased for stabilized output value at all times.

15/3,AB/11 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO
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04354907
HOLOGRAPHIC FINDER

PUB. NO.: 05-346607 [JP 5346607 A]
PUBLISHED: December 27, 1993 (19931227)
INVENTOR(s): KOBAYASHI KOSEI
MAEKAWA YUKIO
HAYASHI KOTARO
HAMAGUCHI KOJI
YANO MASARU

APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-156340 [JP 92156340]
FILED: June 16, 1992 (19920616)
JOURNAL: Section: P, Section No. 1720, Vol. 18, No. 187, Pg. 146, March 30, 1994 (19940330)

ABSTRACT

PURPOSE: To abate a restriction as for the positions of eyes and to enable the precise visual field of photographing to be confirmed by both eyes.
CONSTITUTION: Two hologram plates 2a and 2b are arranged on a camera main body 1 so that the information of the hologram image of a visual field frame is recorded, prescribed positional relation between a photographing lens 12 is maintained and they are made to correspond to the positions of both eyes of a photographer. In front of them, **light emitting elements** 3a and 3c displaying the hologram image by superimposing it on an object by **illuminating** the plate 2a or 2b according to the distance of the object are provided.

15/3,AB/12 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO
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03920711
LIGHT COLLIMATOR

PUB. NO.: 04-285811 [JP 4285811 A]
PUBLISHED: October 09, 1992 (19921009)
INVENTOR(s): **HAYASHI KOJI**
NOMURA YOSHIO
APPLICANT(s): TOYO COMMUN EQUIP CO LTD [000310] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-104983 [JP 91104983]
FILED: March 14, 1991 (19910314)
JOURNAL: Section: P, Section No. 1490, Vol. 17, No. 84, Pg. 99, February 19, 1993 (19930219)

ABSTRACT

PURPOSE: To facilitate accurate regulation of an optical axis and thereby to enable execution of communication with little loss of energy by disposing a visual point on the optical axis of a signal light and by concentrating the energy of the signal light on the optical axis.

CONSTITUTION: A projector 30 is supported movably by a pedestal 31, while a light loss regulating plate 35 and a half mirror 36 are disposed between an ocular part 33 and a delivery lens 34, and an electro-optical conversion circuit 38 is disposed above the half mirror 36. The circuit 38 has a **light-emitting element** 39 and a **light beam** applied from the **element** 39 to the half mirror 36 is reflected thereby and emitted from the delivery lens 34. The **light beam** emitted from the lens 34 comes in from the lens 34 and is transmitted through the half mirror 36, and the optical axis thereof is made to coincide with that of a visible light entering the ocular part 33 from outside. In a light receiver 45, likewise, a light loss regulating plate 49 and a half mirror 50 are disposed between an ocular part 47 and a receiving lens 48 and the optical axis of a light beam entering from the receiving lens 48 is made to coincide with that of a visible light entering from outside through the half mirror 50.

15/3,AB/13 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO
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03745512
DISPLACEMENT DETECTING APPARATUS

PUB. NO.: 04-110612 [JP 4110612 A]
PUBLISHED: April 13, 1992 (19920413)
INVENTOR(s): HAYASHI KOICHI
SHIBATA SHINJI
APPLICANT(s): OKUMA MACH WORKS LTD [350858] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 02-229114 [JP 90229114]
FILED: August 30, 1990 (19900830)
JOURNAL: Section: P, Section No. 1395, Vol. 16, No. 357, Pg. 104, July
31, 1992 (19920731)

ABSTRACT

PURPOSE: To detect the displacement stably in high resolution with low power consumption by performing amplitude modulation for the amount of light from a light emitting part, converting the amount of the amplitude modulated light into the electric signal, and detecting the displacement.

CONSTITUTION: The light from a light emitting element 1 passes through a collimator lens 2, a main scale 3, and index scale 4 and undergoes amplitude modulation in approximately proportional to the sine wave value and the cosine wave value of a detected displacement (x). A parameter Kp which is stored in an EEPROM 16 beforehand corrects the changing pattern of numerical values S and C corresponding to the change in detected displacement (x) into the sine wave whose phase is shifted by 90 deg. accurately. The parameter Kp is read out into a microprocessor 14, and the operation is performed. Thus, the numerical values S and C are brought more closer to the numerical values which are proportional to the sine wave value and the cosine wave value of the detected displacement (x), and the detecting accuracy is improved. The operation is performed in the microprocessor 14 based on the corrected numerical values S and C. Thus, the detected displacement (x) is converted into the numerical value indicating high resolution and high accuracy.

15/3,AB/14 (Item 11 from file: 347)
DIALOG(R)File 347:JAPIO
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03590933
DISPLAY ILLUMINATION DEVICE FOR CAMERA

PUB. NO.: 03-253833 [JP 3253833 A]
PUBLISHED: November 12, 1991 (19911112)
INVENTOR(s): ISHII NORIYUKI
CHUSA MASAYUKI
FUJINO AKIHIKO
HAYASHI KOTARO
APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 02-052387 [JP 9052387]
FILED: March 02, 1990 (19900302)
JOURNAL: Section: P, Section No. 1310, Vol. 16, No. 56, Pg. 4,

February 12, 1992 (19920212)

ABSTRACT

PURPOSE: To obtain enough space for elements by providing two light sources whose colors are different as the **illumination** light source of a display part.

CONSTITUTION: On an **LED** substrate 7, many sets of **light emitting elements** are provided by setting two **LEDs** 7A and 7B whose colors are different as a set of **light emitting elements**. That means, **light** from the **LEDs** 7A and 7B does not become the perfect collimated beam of light. However, by arranging a diffusing sheet 6A behind a lens 6B, the light is diffused so that the covering area of the lens 6B of an LCD 5 is uniformly **illuminated** by the **illumination light emitted** from two **LEDs** 7A and 7B as the uniform **illumination** light. Then, the **element** 7A is made to **emit** the **light** at a flash photographing mode time and the **element** 7B is made to **emit** the **light** at an ordinary photographing mode time. Thus, more than enough space is obtained for the display part in the LCD.

15/3,AB/15 (Item 12 from file: 347)
DIALOG(R)File 347:JAPIO
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03127524
FINDER DISPLAY DEVICE

PUB. NO.: 02-103024 [JP 2103024 A]
PUBLISHED: April 16, 1990 (19900416)
INVENTOR(s): HAYASHI KOTARO
MAEKAWA YUKIO
HATA YOSHIAKI
NEGORO YUMIKO
APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-258277 [JP 88258277]
FILED: October 12, 1988 (19881012)
JOURNAL: Section: P, Section No. 1073, Vol. 14, No. 317, Pg. 57, July 09, 1990 (19900709)

ABSTRACT

PURPOSE: To always allow an object image to coincide with the visual field of a focusing display even if object distance is changed by changing the position of an **emitting element** which **lights** a hologram plate according to the object distance.

CONSTITUTION: The hologram plate 5 set in a non-TTL type finder system diffracts **light** from an **emitting element** 4 arranged outside a finder optical path and performs focusing display in a finder visual field. When the object distance is changed, the **light emitting element** 4 is moved in the way that the diopter of the focusing display coincides with an object diopter, for example, by a motor, a bimorph, etc., in response to object distance found by a range-finding device 1. Therefore, even if the object distance is changed a photographer can constantly see a focusing display at the same position as an object image position and obtain the finder easy to see.

15/3,AB/16 (Item 13 from file: 347)

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03111632
FINDER DISPLAY DEVICE

PUB. NO.: 02-087132 [JP 2087132 A]
PUBLISHED: March 28, 1990 (19900328)
INVENTOR(s): HAYASHI KOTARO
MAEKAWA YUKIO
HATA YOSHIAKI
NEGORO YUMIKO
APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 63-238404 [JP 88238404]
FILED: September 22, 1988 (19880922)
JOURNAL: Section: P, Section No. 1064, Vol. 14, No. 286, Pg. 153, June
20, 1990 (19900620)

ABSTRACT

PURPOSE: To allow a photographer to readily recognize an automatic focusing spot by using a hologram plate and displaying information on automatic focusing so as to overlap with an erect virtual image of an object that is focused automatically.

CONSTITUTION: Plural light emitting elements 2A to 2E selectively emitting light to display the automatic focusing position are arranged outside a finder optical path. A hologram plate 3 arranged on the finder optical path diffracts the light from the light emitting elements and information on automatic focusing is displayed to overlap with the erect virtual image of the object that is automatically focused. Therefore, even if the virtual image of the object is formed ahead of the camera, hologram can surface the focused position display in the position where the virtual image is formed. Thus, an image of the object and the focused position display can be observed at the same diopter.

15/3,AB/17 (Item 14 from file: 347)
DIALOG(R)File 347:JAPIO
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03111631
SELF-TIMER DISPLAY DEVICE FOR CAMERA

PUB. NO.: 02-087131 [JP 2087131 A]
PUBLISHED: March 28, 1990 (19900328)
INVENTOR(s): HAYASHI KOTARO
HATA YOSHIAKI
MATSUI TORU
NEGORO YUMIKO
APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 63-238405 [JP 88238405]
FILED: September 22, 1988 (19880922)
JOURNAL: Section: P, Section No. 1064, Vol. 14, No. 286, Pg. 153, June
20, 1990 (19900620)

ABSTRACT

PURPOSE: To reduce the number of opening windows in front of a camera by

taking advantage of principles of hologram and displaying a self-timer on any of a photometry window, a range-finding window and a finder window so that the display can be viewed from the side of an object.

CONSTITUTION: A hologram plate 2 is arranged on the photometry window in front of the camera, a photometric optical system 3 is arranged behind the hologram plate 2, and a **light emitting element** 4 irradiating the hologram plate 2 with reference light is arranged outside the optical path of the photometric optical system 3. A beam splitter 11 bisects a **laser** beam from a **laser** generator 10, one is used to **illuminate** the object, and the other is used for reference light interfering with reflected light from the object 12. The reflected light from the object 12 and the interference fringe of the reference light are recorded on a hologram photosensitive material 13, and the hologram plate 2 is obtained. The **laser** beam is diffracted by the interference fringe recorded on the hologram plate 2, and the transmitted, diffracted light surfaces an erect normal image 12' of the object in its original position. Thus, the number of opening windows in front of the camera can be reduced.

15/3,AB/18 (Item 15 from file: 347)
DIALOG(R)File 347:JAPIO
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03111629
SPORT FINDER

PUB. NO.: 02-087129 [JP 2087129 A]
PUBLISHED: March 28, 1990 (19900328)
INVENTOR(s): **HAYASHI KOTARO**
KIMURA KAZUO
HATA YOSHIAKI
TOKUMARU SHO
NEGORO YUMIKO
APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-238406 [JP 88238406]
FILED: September 22, 1988 (19880922)
JOURNAL: Section: P, Section No. 1064, Vol. 14, No. 286, Pg. 152, June 20, 1990 (19900620)

ABSTRACT

PURPOSE: to eliminate the blur of a visual field frame by surfacing the frame in a space closer to an object rather than to a camera main body.
CONSTITUTION: The sport finder is provided with a hologram plate 2 which is provided outside the camera main body 1 to be folded up and passes light from an object as it is, and a **light emitting element** 3 which irradiates the hologram plate 2 with reference light, and reproduces at least one of the visual field frame, a range-finding frame and a metering frame in the space closer to the object rather than to the camera main body 1 with the aid of diffracted light from the hologram plate 2. The hologram plate 2 passing the light from the object as it is provided outside the camera main body 1 so as to be folded up and to be attached or detached. The **light emitting element** 3 irradiates the hologram plate 2 with the reference light to reproduce the visual field frame in the space closer to the object rather than to the camera main body 1 with the aid of the diffracted light from the hologram plate 2. As a result, the visual field frame becomes almost the same as the object in diopter, thereby eliminating the blur of the visual field frame. In addition, since the visual field frame becomes farther from an observer,

the position and magnification relations between the object and the visual field frame do not change substantially even if he greatly moves his eyes back and forth in all directions.

15/3,AB/19 (Item 16 from file: 347)
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02933838

OPTICAL TRANSMISSION SYSTEM

PUB. NO.: 01-231438 [JP 1231438 A]
PUBLISHED: September 14, 1989 (19890914)
INVENTOR(s): TANAKA NOBUYUKI
HAYASHI KAZUYA
APPLICANT(s): NEC ENG LTD [329822] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 63-058075 [JP 8858075]
FILED: March 10, 1988 (19880310)
JOURNAL: Section: E, Section No. 858, Vol. 13, No. 558, Pg. 75,
December 12, 1989 (19891212)

ABSTRACT

PURPOSE: To prevent a fault due to a **laser** beam by sending fault detection information to an opposite station if an optical signal from the opposite station is interrupted and allowing the opposite station to stop the output of a **laser light emitting element** based on the said fault detection information.

CONSTITUTION: An 'electric' signal inputted externally is given to a drive control section 32 via a multiplex section 31 to drive a **laser** emitting element 11 thereby applying optical transmission. On the other hand, the received optical reception signal (a) is converted into an electric signal by a **laser** reception element 12, amplified by an amplifier 33 and outputted externally via a demultiplex section 34. If an optical reception signal (a) from an opposite station is interrupted, it is detected by a fault detection section 35, fault detection information (b) is multiplexed with the input electric signal by a multiplex section 31 and the result is sent to the opposite station. On the other hand, upon the reception of the fault detection information (b), a **laser** light emission block circuit 36 is activated to stop or interrupt the **lighting** of the **laser** beam **emitting element** 11 thereby preventing a fault of the operator. Thus, the safety is improved.

15/3,AB/20 (Item 17 from file: 347)
DIALOG(R)File 347:JAPIO
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02831640

DISPLAY DEVICE FOR CAMERA

PUB. NO.: 01-129240 [JP 1129240 A]
PUBLISHED: May 22, 1989 (19890522)
INVENTOR(s): HAYASHI KOTARO
MUKAI HIROSHI
APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 62-287113 [JP 87287113]
FILED: November 13, 1987 (19871113)

JOURNAL: Section: P, Section No. 921, Vol. 13, No. 375, Pg. 99, August 21, 1989 (19890821)

ABSTRACT

PURPOSE: To raise lighting efficiency and to uniformly light a display element by letting a prism have a condensing function so that two light beams in different directions are superposed in the same direction and arranging a light source with a small area near the focusing position of the prism.

CONSTITUTION: Many grooves F whose cross sections are saw-tooth-shape are densely formed on the light projecting surface a(sub 5) of the prism 1 for meeting two **luminous** fluxes. One surface of each groove F is formed as a Fresnel lens surface where a focus is placed near the **light source (light emitting element 3 or lighting window)** of another surface whose area is smaller and another surface of each groove F is formed into the surface having a tilt with which another light is transmitted and projected in a direction where condensed light beams are projected without losing parallel. Thus, the light beams A from the light source 3 become the nearly collimated **luminous** flux after going out through the projecting surface a(sub 5) of the prism 1 for meeting two **luminous** fluxes and an entire display element 4 is lighted with the nearly collimated light. If the effective shape of the lighting window has the same area as the display element in viewing from the eyepiece part of a finder, external light can uniformly light on all the surface of the display element when it is projected from the projecting surface of the prism.

15/3,AB/21 (Item 18 from file: 347)

DIALOG(R)File: 347:JAPIO

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02457143

IN-FINDER DISPLAY DEVICE FOR SINGLE-LENS REFLEX CAMERA

PUB. NO.: 63-074043 [JP 63074043 A]

PUBLISHED: April 04, 1988 (19880404)

INVENTOR(s): **HAYASHI KOTARO**

MUKAI HIROSHI

APPLICANT(s): MINOLTA CAMERA CO LTD [000607] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 61-220621 [JP 86220621]

FILED: September 17, 1986 (19860917)

JOURNAL: Section: P, Section No. 745, Vol. 12, No. 300, Pg. 164, August 16, 1988 (19880816)

ABSTRACT

PURPOSE: To brightly and uniformly **illuminate** the whole band-shaped display part by curing an **illuminating** light which is roughly parallel to a substrate for supporting a **light emitting element** and does not reach the band-shaped display part of a transmissive display body, in the direction of the band-shaped part by a reflecting member.

CONSTITUTION: In an **illuminating** light of a **light emitting element 5**, a direct light (b) passes straightly through the first prism 7 and **illuminates** a band-shaped display part, and also, an **illuminating** light being roughly parallel to a substrate 8 is reflected by each second reflecting surface 7c of the first prism 7 and goes to a curved light b'. The curved light b' **illuminates** a part

between the **light emitting elements** 5 of the band-shaped display part, which cannot be **illuminated** by the direct light (b). In such a way, the whole of the band-shaped display part is **illuminated** brightly and without an uneven **illumination**.

15/3,AB/22 (Item 19 from file: 347)
DIALOG(R)File 347:JAPIO
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02398583
LEAD FRAME FOR **LIGHT-EMITTING DIODE**

PUB. NO.: 63-015483 [JP 63015483 A]
PUBLISHED: January 22, 1988 (19880122)
INVENTOR(s): KOTAKI MASAHIRO
HIROZAWA KUNIKAZU
KINO HITOSHI
HAYASHI KENICHI
APPLICANT(s): TOYODA GOSEI CO LTD [419810] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 61-159436 [JP 86159436]
FILED: July 07, 1986 (19860707)
JOURNAL: Section: E, Section No. 625, Vol. 12, No. 221, Pg. 55, June 23, 1988 (19880623)

ABSTRACT

PURPOSE: To suppress dispersion of **light** and improve the **light emitting** efficiency by laminating **LED elements** and making the **LED elements** have positive and negative electrodes at the same side face.

CONSTITUTION: At the tip of an anode lead members 10, a leveled face 11 and a reflected part 12 are formed in a body. One of the electrode parts of an **LED** is placed on the leveled face 11 and the reflected part 12 has a dike-shaped frame and surrounds about half of the **LED** in the vicinity of the side circumference face of its **LED** to be put by the electrodes. Even at the tip of a cathode lead members, the leveled face 21 and the reflected part 22 are formed in a body. The other electrode part of the **LED** is placed on the leveled face 21 and the reflected part 22 has the dike-shaped frame composing a remained other half of the **LED** and together with the reflected part 12 surrounds full circumferences of the side circumference face of its **LED** in the vicinity of the side circumference face of the **LED** to be put by the electrodes. In addition, the reflected parts 12 and 22 of both lead members 10 and 20 as well as all the surface of the leveled faces 11 and 21 are processed by silver plating and plated layers 13 and 23 are formed. Thus, the above members and others are so laminated that the **light emitted** in a direction along laminated **layer faces** having both positive and negative electrodes at the same side face are not dispersed and permit them to reflect in a right angle to laminated faces. As a result, the above performance of the lead frame drastically improves the **light emitting** efficiency.

15/3,AB/23 (Item 20 from file: 347)
DIALOG(R)File 347:JAPIO
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02370775

**LIGHT EMITTING DIODE ELEMENT AND MANUFACTURE
THEREOF**

PUB. NO.: 62-287675 [JP 62287675 A]
PUBLISHED: December 14, 1987 (19871214)
INVENTOR(s): **HAYASHI KENICHI**
HIROZAWA KUNIKAZU
KOTAKI MASAHIRO
KINO HITOSHI
APPLICANT(s): TOYODA GOSEI CO LTD [419810] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 61-132194 [JP 86132194]
FILED: June 06, 1986 (19860606)
JOURNAL: Section: E, Section No. 614, Vol. 12, No. 184, Pg. 94, May
28, 1988 (19880528)

ABSTRACT

PURPOSE: To make it possible to form an electrode on the same plane as a substrate surface and perform bonding applying a wireless bonding method without the use of wires, by extending a second epitaxial crystal layer on the other surface of a substrate, and exposing the layer partially on the substrate surface.

CONSTITUTION: After a mask is arranged on the surface of a first epitaxial layer 2, an insulating material layer 4 is formed on the inner peripheral surface of a groove 3 by a vacuum vapor deposition method. Eliminating the mask, a second epitaxial crystal layer 5 of P-type is formed on the surface of the first epitaxial crystal layer 2. The second epitaxial crystal layer 5 is formed so as to fill the inner part of the groove 3. A portion arranged between bank-shaped extending parts is cut in parallel with the extending parts by a die machine, and further cut so as to cross perpendicularly to the cut surface. As to an LED obtained, one electrode 6 and the other electrode 7 are formed on the same plate. Consequently, they can be bonded by wireless bonding, and the final shape of a product can be made thin.

15/3,AB/24 (Item 21 from file: 347)
DIALOG(R)File 347:JAPIO
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01604403
PROCESSING METHOD OF VEHICLE HEIGHT SENSOR

PUB. NO.: 60-082903 [JP 60082903 A]
PUBLISHED: May 11, 1985 (19850511)
INVENTOR(s): OHASHI KAORU
HAYASHI KUNIHISA
APPLICANT(s): TOYOTA MOTOR CORP [000320] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 58-191970 [JP 83191970]
FILED: October 14, 1983 (19831014)
JOURNAL: Section: P, Section No. 387, Vol. 09, No. 224, Pg. 94,
September 10, 1985 (19850910)

ABSTRACT

PURPOSE: To prevent thermal deterioration of a vehicle height sensor and to improve reliability by shutting off at least a current supply circuit for light emitting elements except in the stage of detecting the relative displacement on the top and bottom side of the spring of a

vehicle thereby decreasing the self heating value of the vehicle height sensor.

CONSTITUTION: A microcomputer 66 is first initialized and whether the current conducting period for passing current to a power source line 100 is 4(sup ms) or not is decided. If the result of decision is yes, both transistors 58, 60 are turned on by the command outputted from an input buffer circuit 64 to pass the current to the line 100. Whether the first time 10(sup μ s) of the current conducting time 50(sup μ s) for a vehicle height sensor 10 elapses or not is decided and if the result of the decision is yes, signals e(sub 2)-e(sub 5) from signal lines 102, 104, 106, 108 are taken in and the relative displacement on the top and bottom side of the spring of the vehicle is calculated. The current conduction to the line 100 is then stopped and the process for adjusting the vehicle height according to the relative displacement calculated by the microcomputer 66 is accomplished

15/3,AB/25 (Item 22 from file: 347)
DIALOG(R)File 347:JAPIO
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01600871

INDICATOR FOR COPIABLE RANGE

PUB. NO.: 60-079371 [JP 60079371 A]
PUBLISHED: May 07, 1985 (19850507)
INVENTOR(s): HAYASHI KENJI
APPLICANT(s): FUJII XEROX CO. LTD. [359761] (A Japanese Company, or Corporation), JP (Japan)
APPL. NO.: 58-187100 [JP 83187100]
FILED: October 07, 1983 (19831007)
JOURNAL: Section: P, Section No. 386, Vol. 09, No. 221, Pg. 52, September 07, 1985 (19850907)

ABSTRACT

PURPOSE: To permit easy setting of an original by providing a **light emitting** part in an original setting part, determining the copiable range of the original setting part by the signal for assigning the size of recording paper and the signal for assigning the magnification for copying, **emitting** stepwise **light** from the **light emitting** part and indicating the set area.

CONSTITUTION: A **light emitting** part 11 arrayed linearly with many **light emitting elements** 12 at an equal spacing for indicating the set area of an original is provided in the upper part of an original inserting port or atop the guide table for the original. The elements 12 are disposed laterally symmetrically with the central point 13 of the guide table for the original as a reference. When the signal for assigning size outputted from a button for assigning the size of recording paper and the signal for assigning magnification outputted from a dial or button for assigning the copying magnification are supplied to a control part, the control part determines a copiable range and **emits light** stepwise from the part 11 according to the result of said determination. Since the copiable region can be thus indicated by the **emitted light**, the setting of the original is easy and erroneous copying is prevented.

03/25/2004

10/085,607

(FILE 'HOME' ENTERED AT 11:18:14 ON 25 MAR 2004)

FILE 'WPIX, INPADOC, JAPIO, PATOSEP, PATOSWO' ENTERED AT 11:20:10 ON 25
MAR 2004

L1 E JP2001-052741/AP,PRN
 4 S E3-E4

L1 ANSWER 1 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT.on STN
AB JP2002260851 A UPAB: 20021212
NOVELTY - The light emitting element (4) has a luminescent material layer (12) between upper and lower electrodes (11,13) formed on a substrate (10). An optical sensor (1) formed on the upper electrode, detects the intensity of light emitted from the light emitting element.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for light emission system.
USE - E.g. electroluminescent element for display device.
ADVANTAGE - Suppresses brightness irregularity and color non-uniformity. Improves optical intensity detection sensitivity by guiding the emitted light to the sensor efficiently.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the light emission system.
Optical sensor 1
Light emitting element 4
Substrate 10
Upper and lower electrodes 11,13
Luminescent material layer 12
Dwg.1/16
AN 2002-736712 [80] WPIX
DNN N2002-580998
TI Light emitting element for display device, includes optical sensor on upper electrode to detect intensity of emitted light.
DC P85 T04 U14
IN FUKUCHI, T; HAYASHI, K; TSUBOI, S
PA (NIDE) NEC CORP
CYC 2
PI JP 2002260851 A 20020913 (200280)* 21p H05B033-08
US 2003047736 A1 20030313 (200321) H01L027-15
ADT JP 2002260851 A JP 2001-52741 20010227; US 2003047736 A1 US 2002-85607 20020227
PRAI JP 2001-52741 20010227
IC ICM H01L027-15; H05B033-08
ICS G09G003-20; G09G003-30; H05B033-12; H05B033-14
AB JP2002260851 A UPAB: 20021212
NOVELTY - The light emitting element (4) has a luminescent material layer (12) between upper and lower electrodes (11,13) formed on a substrate (10). An optical sensor (1) formed on the upper electrode, detects the intensity of light emitted from the light emitting element.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for light emission system.
USE - E.g. electroluminescent element for display device.
ADVANTAGE - Suppresses brightness irregularity and color non-uniformity. Improves optical intensity detection sensitivity by guiding the emitted light to the sensor efficiently.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the light emission system.
Optical sensor 1
Light emitting element 4
Substrate 10
Upper and lower electrodes 11,13
Luminescent material layer 12
Dwg.1/16
FS EPI GMPI
FA AB; GI
MC EPI: T04-H; U14-J02

L1 ANSWER 2 OF 4 INPADOC COPYRIGHT 2004 EPO on STN

AB A light emitting device in accordance with the present invention includes a light emitting element and a light sensor for detecting the luminous intensity of the light emitted from the light emitting element. The light emitting element includes a lower electrode, a light emitting material layer including at least a light emitting layer, and an upper electrode having light transparency, which are formed on a substrate in the named order. One of the lower electrode and the upper electrode acts as a cathode, and the other acts as an anode. The light sensor is formed on the light emitting element. Thus, it is possible to provide the light emitting device so configured to sufficiently prevent the unevenness of luminance and the deterioration in color balance, and to efficiently guide the light emitted from the light emitting element to the light sensor, so as to enable to detect the luminous intensity of the emitted light with high sensitiveness, with a minimized adverse mutual influence between the light emitting element and the light sensor.

LEVEL 1

AN 207352071 INPADOC ED 20030624 EW 200325 UP 20040308 UW 200410
TI Light emitting device and light emitting system.
IN HAYASHI KAZUHIKO; FUKUCHI TAKASHI; TSUBOI SHINNZO
INS HAYASHI KAZUHIKO; FUKUCHI TAKASHI; TSUBOI SHINNZO
INA JP; JP; JP
PA NEC CORPORATION
PAS NIPPON ELECTRIC CO
PAA JP
DT Patent
PIT USAA PATENT APPLICATION PUBLICATION (PRE-GRANT)
PI US 2003047736 AA 20030313
AI US 2002-85607 A 20020227
PRAI JP 2001-52741 A 20010227
ICM (7) H01L027-15
EPC H05B33/08; H05B33/08P
NCL 257 79

L1 ANSWER 3 OF 4 INPADOC COPYRIGHT 2004 EPO on STN

LEVEL 1

AN 185811797 INPADOC ED 20021022 EW 200242 UP 20030401 UW 200313
TI EMITTER AND LIGHT-EMITTING SYSTEM.
IN HAYASHI KAZUHIKO; FUKUCHI TAKASHI; TSUBOI SHINZO
INS HAYASHI KAZUHIKO; FUKUCHI TAKASHI; TSUBOI SHINZO
PA NEC CORP
PAS NIPPON ELECTRIC CO
TL English
DT Patent
PIT JPA2 DOCUMENT LAID OPEN TO PUBLIC INSPECTION
PI JP 2002260851 A2 20020913
AI JP 2001-52741 A 20010227
PRAI JP 2001-52741 A 20010227
OSDW 2002-736712
ICM (7) H05B033-08
ICS (7) G09G003-20; (7) G09G003-30; (7) H05B033-12;
(7) H05B033-14

L1 ANSWER 4 OF 4 JAPIO (C) 2004 JPO on STN

AB PROBLEM TO BE SOLVED: To provide an emitter in which unevenness of

luminance and color balance drop can be sufficiently suppressed and which can detect with good sensitivity the strength of emission of the element as it can introduce effectively the light emitted from the light-emitting element to a luminous intensity sensor, and in which the light-emitting element and luminous intensity sensor do little affect each other adversely, and a light-emitting system applied with this emitter.

SOLUTION: The emitter comprises a light-emitting element and a light sensor for detecting the luminous intensity emitted from this light-emitting element, and the above light-emitting element comprises a lower electrode and an upper electrode that has a luminous material layer containing at least a luminous layer and translucency on the substrate in order, and one of the lower electrode and upper electrode is a negative electrode and the other is a positive electrode, and the above light sensor is formed on the above light-emitting element.

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AN 2002-260851 JAPIO

TI EMITTER AND LIGHT-EMITTING SYSTEM

IN HAYASHI KAZUHIKO; FUKUCHI TAKASHI; TSUBOI SHINZO

PA NEC CORP

PI JP 2002260851 A 20020913 Heisei

AI JP 2001-52741 (JP2001052741 Heisei) 20010227

PRAI JP 2001-5274120010227

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002

IC ICM H05B033-08

ICS G09G003-20; G09G003-30; H05B033-12; H05B033-14

AB PROBLEM TO BE SOLVED: To provide an emitter in which unevenness of luminance and color balance drop can be sufficiently suppressed and which can detect with good sensitivity the strength of emission of the element as it can introduce effectively the light emitted from the light-emitting element to a luminous intensity sensor, and in which the light-emitting element and luminous intensity sensor do little affect each other adversely, and a light-emitting system applied with this emitter.

SOLUTION: The emitter comprises a light-emitting element and a light sensor for detecting the luminous intensity emitted from this light-emitting element, and the above light-emitting element comprises a lower electrode and an upper electrode that has a luminous material layer containing at least a luminous layer and translucency on the substrate in order, and one of the lower electrode and upper electrode is a negative electrode and the other is a positive electrode, and the above light sensor is formed on the above light-emitting element.

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